

**CONTRIBUTIONS TO RESEARCH INTO STRESS RESPONSE SYNDROMES:
THE INTRAPERSONAL RESOURCE SENSE OF COHERENCE AND
AN INTERVENTION FOR ADJUSTMENT DISORDER**

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When we are no longer able to change a situation, we are challenged to change ourselves.

Viktor E. Frankl

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ABSTRACT

Most individuals experience a variety of stressful or even traumatic events in the course of their lives, though the stress responses greatly vary between persons. On the one hand, protective factors are at work that enable individuals to successfully cope with adversity. On the other hand, psychosocial support is sometimes necessary in order to overcome adversity. This cumulative PhD thesis contributes to the body of knowledge on stress response syndromes by presenting a revised scale measuring the intrapersonal resource of Sense of Coherence (study 1) and a self-help manual for adjustment disorder (study 2).

Sense of Coherence (SOC) aims to explain why some individuals are able to develop resilience after experiencing highly stressful situations while others develop pathologies. In the scope of study 1, a revised conceptualization and questionnaire (SOC-R Scale) were developed which aim to overcome several psychometric shortcomings of the previous scale. Manuscript 1 presents the findings of the evaluation study on the newly devised questionnaire. In two samples ($N = 334$ and $N = 157$), factor analyses produced three subscales covering the domains of manageability, reflection, and balance. The validity of the construct was supported by significant but discriminative associations with related constructs and associations with psychological health indicators. The study provides initial psychometric support for the revised SOC conceptualization and scale.

The overall objective of study 2 was to develop the first self-help intervention for individuals suffering from symptoms of adjustment disorder according to the explicit stress response syndrome model of the ICD-11. It was assumed that a low-threshold bibliotherapeutic manual would be an adequate intervention strategy for adjustment disorder which is one of the most frequent diagnosis in clinical practice. Manuscript 2 contains the results on the effectiveness of the manual in a randomized waitlist-controlled trial. The intervention group ($n = 30$) showed more improvement in symptoms of preoccupation, a core symptom group of adjustment

disorders, and in post-traumatic stress symptoms than the control group ($n = 24$). Engagement with the self-help manual and treatment satisfaction were high.

The findings of both studies are discussed in the context of current knowledge on stress response syndromes. The shortcomings of the present research are addressed in the implications section of this thesis, thereby providing suggestions for future research. A special focus is set on discussing the clinical implications of the two newly developed instruments and on eliciting the potential of future research combining the two areas of interest.

ZUSAMMENFASSUNG

Die meisten Menschen erfahren im Laufe ihres Lebens belastende oder sogar traumatische Erlebnisse. Dabei variieren die Stressreaktionen stark zwischen einzelnen Personen. Einerseits wirken protektive Faktoren, die einem dazu befähigen, erfolgreich mit solchen Widrigkeiten fertig zu werden. Andererseits ist psychosoziale Unterstützung manchmal notwendig um Ängste überwinden zu können. Diese kumulative Dissertation leistet zwei Beiträge zum gegenwärtigen Kenntnisstand der Stressfolge-Syndrome: es wird eine revidierte Skala zur Messung der intrapersonalen Ressource Kohärenzsinn vorgelegt (Studie 1), sowie ein Selbsthilfemanual für Anpassungsstörungen entwickelt und evaluiert (Studie 2).

Das Konstrukt des Kohärenzsinns (SOC) versucht zu erklären, warum manche Menschen in der Lage sind, mit hochgradig aversiven Situationen umzugehen, während andere eine Stressfolgestörung entwickeln. Im Rahmen von Studie 1 wurde eine revidierte Konzeptualisierung sowie ein Fragebogen (SOC-R-Skala) entwickelt, welcher verschiedene psychometrische Mängel des früheren Messinstruments zu überwinden sucht. Manuskript 1 enthält die Ergebnisse der Evaluationsstudie dieser neu entwickelten Skala. In zwei Stichproben ($N = 334$ und $N = 157$) ergaben sich anhand von Faktorenanalysen die drei Subskalen der Handhabbarkeit, Reflexion und Balance. Die Validität des neuen Konzepts und Fragebogens wurde durch signifikante, aber dennoch diskriminante Korrelationen mit verwandten Konstrukten sowie durch Assoziationen mit psychischen Gesundheitsindikatoren aufgezeigt. Die vorliegende Studie liefert erste psychometrische und konzeptuelle Unterstützung für die SOC-R Skala.

Das übergeordnete Ziel von Studie 2 war es, einen Selbsthilferatgeber für Anpassungsstörungen gemäß der neuen Konzeptualisierung des ICD-11 der Anpassungsstörung als Stressfolgestörung zu entwickeln. Es wurde angenommen, dass ein niederschwelliges bibliothераapeutisches Angebot eine angemessene Interventionsstrategie für die in der klinischen Praxis häufig

vergebene Diagnose der Anpassungsstörung darstellt. Die Ergebnisse zur Wirksamkeit des Ratgebers in einer randomisiert-kontrollierten Studie werden in Manuskript 2 vorgestellt. Die Interventionsgruppe ($n = 30$) zeigte im Vergleich zu einer Wartelistekontrollgruppe ($n = 24$) einen höheren Symptomrückgang in Bezug auf Präokkupationen sowie Symptome der posttraumatischen Belastungsstörung. Die Adhärenz sowie die Zufriedenheit mit dem Ratgeber waren hoch.

Im Rahmen dieser Synopsis werden die Ergebnisse beider Studien bezüglich der aktuellen Kenntnisse zu stressfolge-Syndromen diskutiert. Die Limitationen der durchgeführten Studien werden diskutiert und daraus Vorschläge für künftige Forschung abgeleitet. Ein weiterer Schwerpunkt liegt darauf, die klinischen Implikationen der beiden neu entwickelten Instrumente zu diskutieren. Weiterhin soll das Potenzial eruiert werden, welches sich aus dem Zusammenführen der beiden Interessensgebiete des SOC-R und der Selbsthilfeintervention ergeben könnte.

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ABBREVIATIONS

ACT	Acceptance and commitment therapy
AjD	Adjustment disorder
CBT	Cognitive behavior therapy
DSM	Diagnostic and statistical manual of mental disorders
EMDR	Eye Movement Desensitization and Reprocessing
ICD	International classification of diseases
MBCT	Mindfulness-based cognitive therapy
PG	Prolonged grief
PTSD	Posttraumatic stress disorder
RCT	Randomized controlled trial
SCID	Structural Clinical Interview for DSM-IV
SOC	The general concept of sense of coherence, independent of either Antonovsky's or the revised definition
SOC-A	Sense of coherence in Aaron Antonovsky's tradition
SOC-R	The revised sense of coherence concept
TAPS	Therapy program for adjustment disorders

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1 BACKGROUND

1.1 Introduction

Over the lifespan, the vast majority of persons experience a variety of critical life events or even traumata which may affect their mental health and wellbeing negatively. In the face of such adversity, some people manage to stay healthy but others develop psychopathologies. Suffering from stress response syndromes such as post-traumatic stress disorder (PTSD) or adjustment disorder (A_jD¹) connotes a significant decrease in quality of life and was shown to cause up to eightfold heightened risk of suicide (Davidson, Hughes, Blazer, & George, 1991; Gradus et al., 2010; Kryzhanovskaya & Canterbury, 2001).

Taking into account these serious consequences of stress events, a crucial line of research investigates personal resources that have the potential to act as health-protective agents when individuals are confronted with adversity. Among the most widely used indicators of psychological resilience or health maintenance is the salutogenetic concept of Sense of Coherence (SOC; Antonovsky, 1979) that has been associated with a variety of health parameters, for example fewer symptoms of post-traumatic stress, anxiety, and depression (Eriksson & Lindström, 2006). However, if such intrapersonal resources are insufficient to cope with a stressor, adequate intervention strategies that support a person in the coping process are required. With the introduction of a new category of stress-related disorders in DSM-5 and ICD-11 (Friedman et al., 2011; Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013), questions concerning the ease-disease spectrum after stress events are likely to once again increase in relevance to the research community on the one hand and to mental health practitioners on the other hand. The present PhD thesis contributes to the growing body of literature on stress response syndromes in two ways: (1) by providing new insights on the personal resource of SOC

¹ The abbreviation A_jD is increasingly chosen in the literature since the abbreviation AD is commonly used for Alzheimer's disease.

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and (2) by presenting a newly developed low-threshold intervention for treating clinical and subclinical AjD.

This cumulative dissertation integrates data from three studies that resulted in two research articles in the field of stress response syndromes. The first chapter introduces the background of this thesis and gives an overview of theoretical approaches towards stress response syndromes. Furthermore, the current state of research regarding the intrapersonal resource SOC is critically reviewed and current issues and developments regarding the AjD diagnosis are presented. In chapter 2, the aims of the dissertation project are outlined and the two research articles are briefly summarized with regard to their objectives, main findings, and conclusions. In chapter 3, the findings from the two studies are further discussed and clinical and research implications are derived. Finally, in chapter 4 the manuscripts of the two research papers are provided in full length.

1.2 Stress response syndromes

Coping with stress has been identified as one of the fundamental demands of the human existence (Antonovsky, 1979; Lazarus & Folkman, 1984; McEwen, 2000). Since the early origins of stress-related research the role of stressful life events in the development of mental disorders was emphasized (Bodenmann, 2000). It was suggested that the vulnerability for mental disorders increases as a consequence of the psychological strain through stressful life events. Depending on the type of stressor and on the extent to which it threatens the individual with regard to their safety or *Weltanschauung*, different stress response syndromes may develop (Dohrenwend & Dohrenwend, 1974; Holmes & Rahe, 1967). They comprise several clinical diagnoses that share not only causative but also symptomatic commonalities: acute stress reaction, PTSD, AjD, and prolonged grief (PG) (Maercker, Brewin, Bryant, Cloitre, Ommeren, et al., 2013). While acute stress reaction and PTSD typically follow an event classified as traumatic, AjD develops after non-traumatic stressful life events. The following section provides

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an overview of explanatory models for the development of different forms of stress response disorders.

1.2.1 Models of stress response syndromes

Theoretical models of stress response syndromes should be able to explain individual differences in the clinical picture of stress reactions. In the following, three theories that focus on the explanation of stress response syndromes will be presented, with an emphasis on Horowitz's (1973) stress response model but briefly introducing Caplan's (1964) crisis model and Selye's (1956) reaction centered stress model.

The term *stress response syndromes* was coined by Mardi J. Horowitz who developed a classification of stress symptoms related to traumatic events (Horowitz, 1973). Importantly, this classification was not only applicable to PTSD but also to other clinical presentations from the stress response spectrum, including AjD and PG (Horowitz, 1997). This pioneering approach is in line with the current DSM-5 classification (American Psychiatric Association, 2013) and the future ICD-11 conceptualization (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013) of stress-related disorders. The stress response model postulates four consecutive phases of stress response that generate different symptoms, starting with a first phase of realization that the stress event occurred. This provokes emotions such as fear, sadness or rage, and a desire to avoid or escape thoughts and reminders of the trauma. Then unfolds a second phase of denial and the refusal to face the implications of the event. The third phase is characterized by alternating intrusion and suppression in which unbidden thoughts, images, and pangs of emotion emerge. According to the model, intrusive memories develop as the stressful information is inconsistent with existing schemata and therefore stored in active memory. Psychological and physiological numbing is interpreted as a defense against the breakthrough of intrusive images. The stress response process is concluded by a working-through phase that results either in adapting to the implications of what had happened or in mental disorder or personality change

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(Horowitz, 1997). Even though the empirical evidence for these consecutive phases is sparse (Creamer, Burgess, & Pattison, 1992), the model is outstanding for its illustrative power of stress-related syndromes.

Similarly, Caplan's (1964) crisis model postulates typical trajectories that occur after extreme stress and threaten to destabilize the individual. An individual experiencing a personal crisis is confronted with a problem or demand that is currently unsolvable. This author assumes that insufficient or ineffective defense mechanisms are responsible for the development of psychopathological symptoms. Tension initially rises in response to an event and disrupts daily life. Unresolved tension and subsequent failure to resolve the crisis may result in a psychological breakdown such as the development of stress-related mental disorders. While Caplan, as Horowitz, took an essentially psychoanalytic-therapeutic perspective, another central contribution to stress response research was presented by Selye (1956) who chose a biological approach and describes stress as an unspecific reaction of the organism towards any kind of environmental demand. One of the main achievements was the description of the key role of the hypothalamic–pituitary–adrenocortical (HPA) axis in the human stress response. Pathological symptoms develop when the organism engages in inadequate coping attempts and an imbalance of arousal and inhibitory processes results (Selye, 1981). Stress-induced alterations of the HPA axis are well known in PTSD (Morris, Compas, & Garber, 2012; Yehuda, 2009) and it is likely that also AjD are associated with altered HPA mechanisms (Strain & Friedman, 2011).

In summary, all three theories aim at explaining the symptomatic pattern of stress-related disorders rather than the origin or development of psychological stress as does for example Richard Lazarus' transactional stress model (Lazarus & Folkman, 1984). The stress response model (Horowitz, 1973) additionally broadened the understanding of PTSD, AjD, PG, and acute stress reactions by proposing one category of stress response syndromes that encompasses

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the different clinical pictures. However, stress response syndromes are not the only consequences of psychosocial stress. Many common mental disorders such as mood disorders, anxiety disorders, behavior disorders or substance abuse are triggered or exacerbated by stress and adversity over the life course (Kendler, Hettema, Butera, Gardner, & Prescott, 2003; Kessler et al., 2010).

1.2.2 A typology of stressful life events

Stress response syndromes are among the few mental disorders that include an external etiological event in the diagnostic rational. According to their level of intensity, stressful life events can be organized into two different categories. The first category includes serious but non-traumatic distressing events that may have a lasting impact on a person's life and require psychological adjustment. Examples are divorce, financial problems, illness and disability, conflict with colleagues, moving, or cultural upheaval (Maercker, Bachem, & Simmen-Janevska, 2015). A subtype of stressful life events are developmental tasks, such as retirement, which are termed normative stressful life events (Havighurst, 1972). The terms "stressful life events" and "critical life events" are used interchangeably in this thesis. The second category incorporates more severe, traumatic events which include life threatening and distressing experiences beyond the range of usual human experiences such as war experiences, severe physical, or sexual violence (Maercker, 2009). Stressors of both categories can either be characterized according to their frequency and continuity as acute (e.g. break-up of a romantic relationship, criminal incident) or chronic (e.g. financial burden, family or occupational problems); they could also be described as recurring (e.g. seasonal economic slumps), or as continuous (e.g. living in a criminal environment) (Maercker, Bachem, & Simmen-Janevska, 2015).

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1.3 Intrapersonal resources as health-protective factors

Stressful life events and trauma require a person to psychologically adjust to the new situation, which represents a challenge that is met by individuals in different manners. At first, research has mostly focused on identifying risk factors that endanger psychological health and favor the development of stress response syndromes (Geyer, 1997; Vossler, 2012). However, only a part of the individuals confronted with a particular stressful or traumatic life event develops a mental disorder while others manage to cope with the stressor and stay healthy. Even most extreme traumatization does not always cause psychopathology, as for example a study on former Ugandan child soldiers shows, where 28% of the participants presented with post-traumatic resilience, specified by the absence of PTSD, depression, or clinically significant behavioral and emotional problems (Klasen et al., 2010).

During the past decades, the focus of clinical and health research has shifted towards a stronger emphasis on health-protective factors that promote resilience to stress. Among others, social connectedness, physical health, cognitive abilities and psychological characteristics have been associated with the adaptation to adversities (e.g. Masten & Powell, 2003; Pietrzak & Cook, 2013; Southwick, Litz, Charney, & Friedman, 2011). One of the first health-protective factors that has been investigated is the intrapersonal resource of Sense of Coherence (SOC; Antonovsky, 1979), which will be further outlined in the following sections.

1.3.1 Sense of Coherence

Aaron Antonovsky's salutogenetic framework and its core concept of SOC are dedicated to the question of what facilitates one's remaining healthy in spite of a lifetime of stress. SOC has attracted considerable research interest in clinical and health psychology and developed to be a widely used indicator of psychological resilience or health maintenance (Becker, Glascoff, & Felts, 2010).

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SOC is defined as a “global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things work out as well as can reasonably be expected” (Antonovsky, 1987, p. xiii). Theoretical considerations led to the specification of three assumed components of Antonovsky’s SOC concept: (1) comprehensibility, referring to the extent to which the stimuli deriving from one's internal and external environments are structured, predictable and explicable; (2) manageability as the extent to which one believes to have the resources to cope with the problem successfully; and (3) meaningfulness which describes the extent to which one feels that problems and demands are worthy of investing energy and engagement. Individuals with a strong SOC should be able to maintain personal balance and health even when confronted with stressful life events or environmental demands (Antonovsky, 1979, 1987, 1991). In order to measure the construct, a 29-item self-report questionnaire, the “Sense of Coherence Scale” (SOC-29), and a short form counting 13 items (SOC-13) were developed (Antonovsky, 1987). In the following, when referring to SOC according to Antonovsky’s understanding of the concept, it will be designated as “SOC-A”.

The introduction of the salutogenetic framework and the concept of SOC-A constitute a profound contribution to the theoretical lining of clinical psychology research and are considered a milestone in the investigation of intrapersonal resources (Eriksson & Lindström, 2005; Geyer, 1997). On the other hand, the questionnaire measuring SOC-A received critical reflection with regard to its psychometric properties. In terms of consistency, most studies indicated satisfying to good coefficients and some reviews attested that the SOC-A questionnaires had adequate properties (Eriksson & Lindström, 2005, 2006). However, critical examination of the literature on the factorial structure, validity, stability, and utility of the SOC-29 and SOC-13 revealed substantial shortcomings and inconsistencies that should be considered when working with the questionnaire.

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1.3.2 A critical perspective on Sense of Coherence

With regard to factorial structure, each item of SOC-29 and SOC-13 is designed to reflect one of three SOC-A dimensions (controllability, manageability, meaningfulness). These subscales, however, have not been satisfyingly reproduced in factorial analysis of empirical data. The majority of studies indicated one core factor (Antonovsky, 1993; Flannery & Flannery, 1990; Frenz, Carey, & Jorgensen, 1993; Gruszczynska, 2006), others found two factors (Feldt, Lintula, et al., 2007; Hawley, Wolfe, & Cathey, 1992; Larsson & Kallenberg, 1999; Zimprich, Allemand, & Hornung, 2006), three factors that only partially represented Antonovsky's components (Gana & Garnier, 2001; Sandell, Blomberg, & Lazar, 1998), or up to five factors (Dudek & Makowska, 1993). Taken together, these findings imply that no separate subscale values for controllability, manageability, and meaningfulness should be computed even though it is often done nevertheless (e.g. Ekblad & Wennström, 1997; Körlin & Wrangsjö, 2002; Strang & Strang, 2001). Additionally, there is considerable variation in the phrasing of the items with some presented as incomplete sentences, others phrased as questions, which further diminishes the utility of the questionnaire (Schumacher, Gunzelmann, & Brähler, 2000).

Another important concern refers to the stability and external validity of SOC-A when measured with SOC-29 or SOC-13. SOC-A was assumed to develop until an individual is 30 years of age, thereafter representing a stable disposition of personality strongly resistant to change (Antonovsky, 1987). This assumption is not empirically supported as most studies report an ongoing increase in SOC-A with chronological age (e.g. Callahan & Pincus, 1995; Frenz et al., 1993; Larsson & Kallenberg, 1996; Mattisson, Horstmann, & Bogren, 2014; Nilsson, Leppert, Simonsson, & Starrin, 2010). Furthermore, the level of SOC-A was shown to depend upon the acute psychosocial context, such as the stressfulness of the current phase of life (Carmel & Bernstein, 1990), job-related changes (P. M. Smith, Breslin, & Beaton, 2003), or physical health status (Caap-Ahlgren & Dehlin, 2004). Finally, SOC-A increased in several patient groups receiving mental health treatment (Körlin & Wrangsjö, 2002; Lazar, Sandell, & Grant,

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2006; Weissbecker et al., 2002; Wiesmann, Rölker, Ilg, Hirtz, & Hannich, 2006). Such results raise the question whether the SOC-A questionnaires measure a salutogenetic concept that underlies health in stressful life situations or rather represent a correlate of the individual's present mental state. This critical argument is further supported by extraordinarily high correlations between SOC-A and indicators of mental health. Correlations with depression range between $r = -.50$ and $-.75$ which might be due to considerable item overlap between the SOC questionnaire and depression measures such as Beck Depression Inventory (Feldt, Lintula, et al., 2007; Flannery & Flannery, 1990; Konttinen, Haukkala, & Uutela, 2008). Associations with anxiety reach levels up to $-.76$ or $-.85$ (Flannery & Flannery, 1990; Frenz et al., 1993; Gruszczyńska, 2006) and self-efficacy was shown to correlate between $r = .52$ and $.74$ (Gruszczyńska, 2006; Li & Shiu, 2008; T. L. Smith & Meyers, 1997). Furthermore, neuroticism correlates up to $r = -.85$ (Feldt, Metsapelto, Kinnunen, & Pulkkinen, 2007; Gibson & Cook, 1996) and dispositional optimism shows $r = .60$ to $.66$ (Chamberlain, Petrie, & Azariah, 1992; Ebert, Tucker, & Roth, 2002; Gruszczyńska, 2006). The extent of these relations supports the assumption that SOC-A is no independent construct but rather represents a measure of emotional stability or general emotional health (Breslin, Hepburn, Ibrahim, & Cole, 2006; Carmel & Bernstein, 1989; Geyer, 1997; Gruszczyńska, 2006; Strümpfer, Gouws, & Viviers, 1998). Importantly, Rutter (1985) argued that to be meaningful, a protective factor needs to be something more than the converse of risk factors. In an attempt to shed light on the concurrent validity of the SOC-29, Schmidt-Rathjens, Benz, Van Damme, Feldt, and Amelang (1997) constructed a second measure following Antonovsky's construct definition and developed independent but similar items. However, the authors concluded that the scale was confounded with emotional affect to a similar extent as the original one.

In summary, the salutogenetic approach and the development of SOC-A are regarded as an important pioneering attempt to direct the focus of interest towards intrapersonal resources that

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support successful coping with adversity and away from a purely pathogenic perspective. However, it must be questioned whether SOC is adequately captured by the currently used questionnaires.

1.3.3 A revised Sense of Coherence concept

One aim of this PhD project was to develop and evaluate a revised SOC scale, which overcomes the previous shortcomings of the SOC-A measures and could be used in clinical as well as research settings. In order to outline a clearly circumscribed construct, the revised SOC concept definition was more strongly guided by the lexical meaning of the term “coherence”. The revised SOC (SOC-R; Maercker, 2010) was defined as the general ability to perceive life phenomena as connected to each other and to balance positive and negative appraisals of life experiences.

Conceptually, the revised SOC definition focuses on relatedness and ambiguity of human experiences and does not imply assumptions of optimism, positive emotionality, and basic acceptance of life. This approach differs from Antonovsky’s (1979) approach that described SOC-A as a way of seeing the world as predictable, comprehensible and functioning in a lawful manner. The revised definition does imply no notion that the world is predictable but takes a more neutral or fatalistic position towards events and experiences of a person over the life course. It is conceptualized as a meta-heuristic for comprehending the human condition and the ways of integrating diverse life experiences.

On the other hand, there are significant communalities of the previous and revised SOC definitions. First and foremost, a high SOC should in both conceptualizations empower a person to maintain health under adverse conditions. Secondly, SOC is assumed to evolve and develop in childhood and remain generally stable across adulthood. However, SOC-R is expected to have potential for change after major life events with a long-lasting impact on a person’s life.

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Since SOC in its previous and new definition is connected to a person's world-view and conviction, it seems natural that highly stressful experiences such as the loss of a child, a life-threatening illness, or traumatic events have an impact on self- and world-views and thus also on SOC.

1.3.4 SOC-R related concepts

A variety of concepts can be subsumed under the paradigm of salutogenesis and there are some intrapersonal constructs that are related to SOC-R on a conceptual level. A list of such constructs and their definitions is presented in Table 1 and the most important ones will be briefly discussed in the following.

Similar to the overarching framework of salutogenesis, the term resilience (e.g. Bonanno et al., 2011; Luthar, Cicchetti, & Becker, 2000; Rutter, 1985) is used as an umbrella paradigm that comprises a variety of health-protective factors which enable an individual to adapt and bounce back from a disruptive event. Initially, resilience was conceptualized as a trait of individuals but nowadays is described from an interactional perspective, involving multiple internal and external protective influences over time (Coulter, 2014). Thus, SOC-R may be understood as one facet or predictor of resilience. While concepts such as resilience, post-traumatic growth (Tedeschi & Calhoun, 1996), or hardiness (Kobasa, 1979) typically refer to the reaction to stressful or traumatic conditions, other SOC-R related concepts such as wisdom (Baltes & Staudinger, 2000), meaning making (Singer, 2004), or cognitive complexity (Labouvie-Vief & Diehl, 2000) cover superior abilities of procedural knowledge that also operate in everyday life situations. Such meta-cognitive abilities help to maintain mental health under adverse conditions be they life incidents in the normal range of human experience or traumatic events. Figure 1 shows a visualization of the different SOC-R related intrapersonal resources that are assumed to foster resilience and ultimately promote salutogenesis. In this context, resilience is understood as the ability to bounce back from adverse conditions (see Fig. 1).

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On the other hand, there are important differences between SOC-R and the conceptually related constructs. For instance, while posttraumatic growth focuses on gains of knowledge and experience through adverse events (Tedeschi & Calhoun, 1996), SOC-R captures the sense of interconnectedness and recognition of positive and negative facts. The hardiness concept (Kobasa, 1979) focuses more strongly on self-efficacy and vigor than SOC-R but does not stress the component of interconnectedness. The concept of meaning making (Singer, 2004) focuses on the development of personal life stories that give meaning to adverse experiences but takes an explicitly narrative approach that is not postulated for SOC-R.

One concept that shares particular similarities with SOC-R and should therefore be discussed in more depth is personal wisdom, based on the Berlin wisdom paradigm (Baltes & Staudinger, 2000). Personal wisdom (Mickler & Staudinger, 2008) refers to a person's insight into his or her own life, as opposed to general wisdom that is concerned with insights into life in general from an observer's perspective. Personal wisdom includes five aspects, of which two seem highly informative for the SOC-R concept. They concentrate on ways of processing information and arriving at judgments about the self and one's own life. The personal wisdom criterion of "interrelating the self" describes the embeddedness of one's behavior and feelings in the age-group, historic, and social context, as well as one's own biography (Mickler & Staudinger, 2008). A feeling of coherence and connectedness of the self and the environment is stressed, as it is the case in the first component of the SOC-R definition presented above. The second metacriterion "tolerance of ambiguity" describes the ability to recognize and handle uncertainties in one's own life and the fact that the present and the future are full of uncontrollable and unpredictable events, including negative ones. This tolerance of ambiguity could be antecedent to fulfilling the second SOC-R component of being able to balance positive and negative experiences in life. Therefore, it should be expected that a person who scores high on measures of personal wisdom also shows a high level of SOC-R.

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However, despite these similarities, personal wisdom is a much broader concept than SOC-R. It also covers aspects such as insight into oneself with regard to competencies and weaknesses, heuristics of growth and self-regulation as well as self-relativism. The measurement of personal wisdom is time-consuming as it requires think-aloud tasks that need to be videotaped and evaluated by trained raters. This decreases the usability of the construct in settings such as survey studies.

In summary, research on SOC-A and related concepts that foster health under adverse conditions has produced a substantial body of knowledge on the question why stress reactions differ between individuals and how one may remain healthy even in the face of extreme adversity. However, if resources are insufficient to buffer the impact of critical life events, stress response syndromes develop. In such circumstances, it is important to have effective intervention strategies available which provide support in the individual coping process.

Table 1. *Summary of SOC-R related concepts*

Concept	Author	Theoretical main content
Resilience	Bonanno, Westphal, and Mancini (2011)	Describes the ability to adapt well and maintain high levels of psychosocial functioning after exposure to severe or traumatic stress.
Hardiness	Kobasa (1979)	Individuals with a “hardy personality” are described as having a strong commitment to the self, an attitude of vigorousness toward the environment, a sense of meaningfulness, and an internal locus of control. This results in less serious illness after exposure to stressful life.
Wisdom	Baltes and Staudinger (2000)	Wisdom describes an expert knowledge system concerning the meaning and conduct of life with high moral standards. Empirical measurement of the wisdom-concept takes five criteria into account: rich factual and procedural knowledge, lifespan contextualism, relativism of values and life priorities, and recognition and management of uncertainty.
Post-traumatic growth	Tedeschi and Calhoun (1996)	Post-traumatic growth refers to positive psychological change represented by gains of knowledge and experience as a result of adverse events.
Meaning making	Singer (2004)	Describes the process of developing self-knowledge by crafting personal life stories. Different construal of meaning making can be distinguished: causal attributions answering the question “why did it happen?” as well as benefit attributions providing explanations to the question “what for did it happen?”
Meaning in life	Steger, Oishi, and Kashdan (2009)	These authors define the concept as „the extent to which people comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they perceive themselves to have a purpose, mission, or over-arching aim in life”.
Personal growth	Schaefer and Moos (1992)	Personal growth describes a feeling of continued development and seeing the self as growing and expanding.

Table 1 (*continued*)

Concept	Author	Theoretical main content
Ego development	Loevinger and Blasi (1976)	The theory assumes that an individual's ego develops and matures through stages across the lifespan as a result of the interaction between oneself, others, and social situations. The highest stage is characterized by an understanding that learning is unavoidable and the ability to make peace with unresolvable conflicts. It is highly similar to Erikson's integrated stage of ego development (Erikson, 1993).
Cognitive complexity	Labouvie-Vief and Diehl (2000)	Refers to a person's skill to perceive nuances and subtle differences which a person with less cognitive complexity would overlook. The authors estimated the concept via crystallized and fluid intelligence as well as reflective cognition.
Optimism	Scheier and Carver (1985)	Optimism describes the tendency to hold positive expectations of the future and the tendency to explain positive events in terms of stable, global, and internal factors.
Self-efficacy	Bandura (1977)	The extent or strength of an individual's belief in his or her capacity to execute the necessary behaviors to cope with a situation and to reach goals. It reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment.

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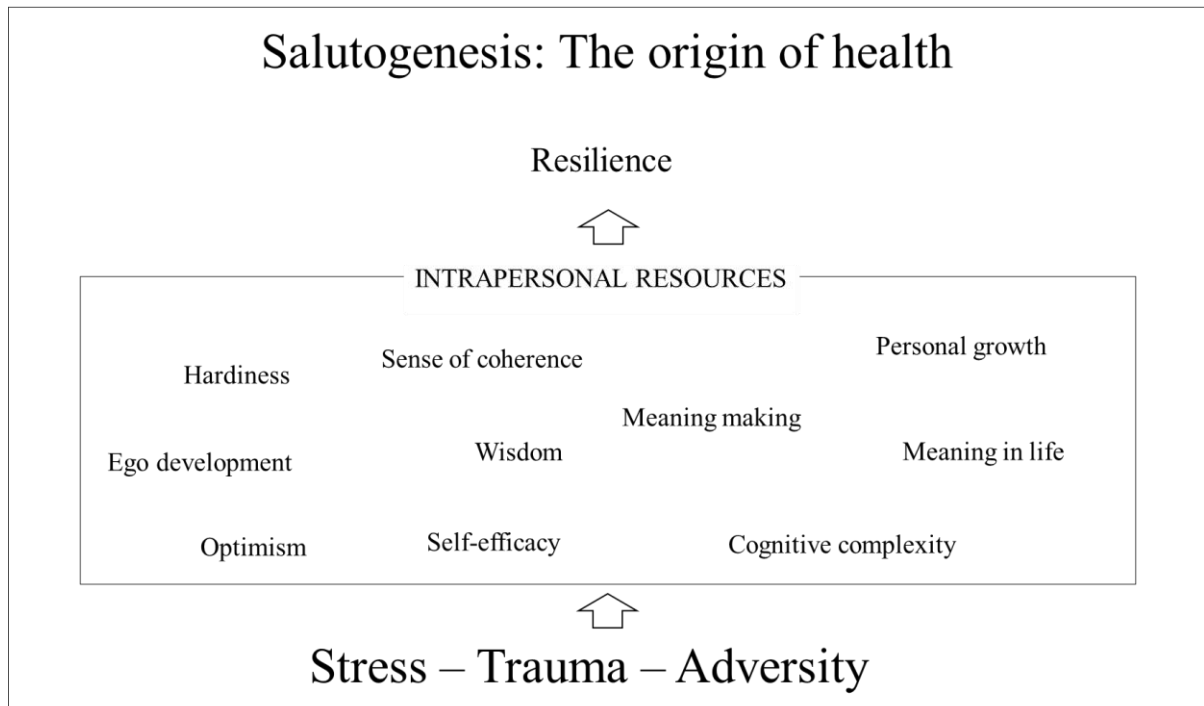


Figure 1. Intrapersonal resources that foster salutogenesis under adverse conditions. The depicted resources show conceptual similarity to SOC-R. Under adverse conditions, intrapersonal resources are expected to support the ability to bounce back from adversity, also described as resilience.

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1.4 Need for intervention: Domain of adjustment disorders

The second aim of this dissertation project was to develop and evaluate a low-intensity self-help intervention for treating one of the most frequent negative consequences of stressful life events: adjustment disorder (AjD). The clinical presentation of AjD and current issues with regard to this diagnostic category will be described in the following.

1.4.1 Diagnostic criteria and epidemiology of adjustment disorder

AjD is defined as an emotional disturbance arising as a consequence of a significant but non-traumatic life event. Symptoms are expected to emerge within three months of the onset of the stressor and to cease within 6 months in the majority of cases. According to ICD-10 (World Health Organization, 1992) and DSM-5 (American Psychiatric Association, 2013), the emotional and behavioral symptoms are diverse and include otherwise normative reactions that manifest more intensely than usually expected when individuals are confronted with a specific stressor. Symptoms must be associated with significant social, occupational, and/or academic performance-related impairments. The criteria for other mental disorders cannot be met (Maercker, Bachem, & Simmen-Janevska, 2015). In the DSM-5 the following subtypes are distinguished: depressed mood, anxiety, disturbance of conduct, mixed anxiety and depressed mood, and mixed disturbance of emotions and conduct. The ICD-10 contains eight subtypes, including prolonged depressive reaction which may be diagnosed until two years after the onset of the stressor.

Epidemiological studies found 12 month prevalence rates of 0.5% to 2% in the general population (Ayuso-Mateos et al., 2001; Glaesmer, Romppel, Elmar, Hinz, & Maercker, 2015; Maercker et al., 2012). When investigating clinical populations, strikingly high rates of AjD were discovered in psychiatric and liaison samples, accounting for up to 30% of all the diagnoses (Casey, 2014; Evans et al., 2013; Stirman, DeRubeis, Crits-Christoph, & Rothman, 2005).

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1.4.2 Problems and recent developments

Despite the frequency of the diagnosis, numerous experts consider the concept to be poorly delineated in the diagnostic manuals and neglected in clinical research (e.g. Baumeister, Maercker, & Casey, 2009; Casey & Doherty, 2012; Semprini, Fava, & Sonino, 2010). First, the diagnosis is negatively defined as it cannot be used when a comorbid disorder is present. Consequently, AjD is often used as a residual category for patients who do not fulfill the diagnostic criteria of other mental disorders. This application brought upon it the reputation of a “waste basket” and “wild card” diagnosis which is difficult to distinguish from other conditions (Baumeister & Kufner, 2009; Casey & Bailey, 2011). Furthermore, the differentiation between AjD and normal, adaptive stress reactions should be clarified (Casey & Bailey, 2011). Finally, the AjD subtypes of ICD-10 and DSM-5 have been questioned as research did not yet empirically support their distinction (Casey, 2009; doiZimmerman, Martinez, Dalrymple, Chelminski, & Young, 2013). On the other hand, the disorder also has several advantages such as high acceptability to patients due to the optimistic prognosis and its power to provide a causal explanation of symptoms. An AjD diagnose further enables individuals who suffer to get relief from professional, educational, or social commitments (Maercker, Bachem, & Simmen-Janevska, 2015).

Taken together, AjD is a diagnostic category that presents serious problems, both to practice and to research. However, disregarding the frequently used diagnosis of AjD in psychopathology research seems unreasonable as this approach creates a gap between theory and practice (Fernández et al., 2012; Stirman, DeRubeis, Crits-Christoph, & Brody, 2003). The new chapters of stress-related disorders included in DSM-5 and ICD-11 include AjD along with other stress response syndromes (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013; Strain & Friedman, 2011) which might prove particularly beneficial for this severely under-studied diagnose. It can be expected that especially the major conceptual changes of the ICD-11, designed to increase

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the utility of the diagnostic category, will fuel new research in this area. This approach will be outlined in the following.

1.4.3 The ICD-11 diagnostic concept of adjustment disorder

The diagnostic concept was proposed by Maercker, Einsle, and Kollner (2007) and describes the reaction to the stressor with two explicitly defined core symptom groups of (1) pre-occupation (e.g. excessive worry, recurrent and distressing thoughts about the stressor, or constant rumination about its implications) and (2) failure to adapt or noticeable impairment in personal, social, or occupational functioning (e.g. difficulties concentrating or sleeping, neglect of pleasant activities). The third symptom category includes accessory features such as avoidance of stimuli, thoughts, and feelings connected to the stressor, depression, anxiety, or impulsive symptoms. It is a pioneer approach to define positive symptom criteria for AjD rather than describing exclusion criteria. The criteria are based on empirical evidence from population based studies and investigations that examined specific populations such as refugees or persons suffering from illness or disability (Dobricki, Komproe, de Jong, & Maercker, 2010; Maercker et al., 2012). The specific symptom criteria of the ICD-11 approach create a good foundation for future research on AjD and is measured by the Adjustment Disorder – New Module (ADNM), a self-report questionnaire with either 20 items (ADNM-20; Glaesmer et al., 2015) or 29 items (ADNM-29; Einsle, Köllner, Dannemann, & Maercker, 2010). This conceptualization of AjD as a stress response syndrome has been approved by the World Health Organization for publication in 2015 (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013).

1.4.4 Adjustment disorder treatment

AjD is known as a transient disorder but becomes chronic in almost a fifth of cases (Kryzhanovskaya & Canterbury, 2001). Chronicity results in a substantial decline in quality of life and can lead to heightened suicide risk if the condition remains untreated (Azocar & Greenwood, 2007; Gradus et al., 2010; Kryzhanovskaya & Canterbury, 2001). In such cases

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therapeutic interventions are indicated. As with basic research on AjD, empirical studies on the effectiveness of disorder-specific or evidence-based treatment approaches are sparse. Experts generally recommend a modular approach, which integrates elements from various psychosocial treatments established and effective for other mental disorders such as depression or anxiety disorders (Casey & Bailey, 2011; O'Connor & Cartwright, 2012; Reschke & Teichmann, 2008). This way, interventions can be adjusted to fit the individual needs that could be intrapsychic, interpersonal, or social and target problems in various life domains, such as family, occupation, or recreation (Simmen-Janevska & Maercker, 2011). In line with the stress response model, Maercker (2009) suggests to put a special focus on techniques adapted from PTSD treatment, such as exposition (e.g., imaginative or narrative exposition, writing assignments), cognitive restructuring (e.g., for recurrent distressing thoughts about the stressor, blaming oneself or others), and Eye Movement Desensitization and Reprocessing (EMDR).

In the following, the few treatment approaches that have been explicitly developed to treat symptoms of AjD will be presented. The first disorder-specific intervention manual for AjD was presented by Hoffmann and Hofmann (2008). It contains materials that can be used by therapists to treat AjD or for self-help purposes by individuals affected by AjD. However, no study on the effectiveness of the materials has been conducted. Secondly, the therapy program for adjustment disorders (TAPS; Reschke, Kusel, Teichmann, & Hallensleben, 2011) is a cognitive problem solving approach for individuals and groups of patients who suffer from AjD. Its structure follows the rational of problem solving therapies with the steps of (1) realization of the problem, (2) acceptance of the situation, (3) planning of the problem solving process, and (4) realization of the problem solving strategy. In a pilot study, a significant decrease in anxiety, anger, and an increase in mood was achieved compared to the wait list condition (Reschke & Teichmann, 2008).

A third intervention devoted to treating AjD symptoms was developed in the domain of E-

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mental health. A virtual reality self-help program named "EMMA's world" can be used as an addition to face-to-face treatment for AjD (Botella et al., 2006). Building on the work by Foa and Kozak (1986) for the treatment of PTSD, the program is meant to activate and process emotions and cognitions associated with the stressful event responsible for the AjD. Exposure to avoided stimuli allows processing different emotional aspects of the event. Results from a preliminary case study suggest promising treatment effects with regard to posttraumatic growth, depression and negative affect (Andreu-Mateu, Botella, Quero, Guillén, & Baños, 2012). However, the effectiveness of the program has not yet been evaluated in a larger-scale empirical study.

1.4.5 Empirical evaluations

Besides the above described disorder-specific interventions, a limited amount of controlled clinical trials has been conducted in order to evaluate the efficacy of known treatment approaches for the population of AjD patients. The therapeutic techniques that were investigated range from cognitive behavior therapy (CBT) with elements of time management, stress inoculation and cognitive restructuring (Van der Klink, Blonk, Schene, & Van Dijk, 2003), client centered psychotherapy (Altenhöfer, Schulz, Schwab, & Eckert, 2007), brief dynamic psychotherapy (Ben-Itzhak et al., 2012; Maina, Forner, & Bogetto, 2005), Gestalt psychotherapy (González-Jaimes & Turnbull-Plaza, 2003) to third-wave CBT techniques such as body mind spirit therapy (Hsiao et al., 2014) or meditation (Srivastava, Talukdar, & Lahan, 2011). The first study that explicitly considered the conceptual closeness of AjD and PTSD was conducted by Cvetek (2008) who successfully implemented EMDR for reducing anxiety symptoms due to intrusive memories of stressful situations in AjD patients. Table 2 presents an overview of published trials evaluating AjD interventions and their results.

There is also a wide variation in length of the interventions examined for treating AjD, ranging from 3 sessions of EMDR (Cvetek, 2008) to daily meditations sessions over 28 weeks

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(Srivastava et al., 2011). Ben-Itzhak et al. (2012) formally evaluated whether there is a difference between short-term psychodynamic treatment (12 sessions) and intermediate dynamic therapy (48 sessions) and found no difference with regard to symptom decrease. Thus, these authors concluded that brief interventions seem well suited for the treatment of AjD.

While most of the studies investigated interventions in an individual therapy setting, two studies are available that evaluated group therapies. The disorder-specific 10-session CBT intervention by Reschke and Teichmann (2008) achieved significant effects with regard to anxiety, anger, and negative mood. Also, a recent study by Hsiao et al. (2014) randomly assigned AjD patients to an eight week body-mind-spirit group psychotherapy and a control group that received one session psychoeducation. This study, however, found no significant effect on the symptom level but a reduction of suicidal ideation and HPA axis hyperactivity. The results of these first studies suggest that group interventions are suitable treatments for AjD.

In conclusion, there are several promising psychotherapeutic approaches that have shown to be effective in treating AjD in several empirical studies. However, these studies are based on very heterogeneous theoretical foundations and a need for replication of these individual results is apparent.

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Table 2 *Empirical evaluation of AJD interventions in chronological order*

Author	Intervention	Design	N	Results
Dalgaard et al. (2014)	6 sessions of CBT over 16 weeks vs two-hour workplace intervention	RCT	137	Significant improvement was found in both groups. No difference between groups in cognitive outcomes or sleep complaints.
Hsiao et al. (2014)	8 weeks of body-mind-spirit group psychotherapy vs one-session psychoeducation control condition	RCT	17	No difference in psychopathology in intervention vs control group. Less suicidal ideation in intervention vs control group. Healthier cortisol patterns in intervention vs control group.
Ben-Itzhak et al. (2012)	12 sessions of brief psychodynamic psychotherapy vs 12 months of longer-term psychodynamic psychotherapy	RCT	66	Significant improvement in both groups after 3 months of therapy in psychological distress, well-being, and psychiatric symptoms. No further improvement in longer-term psychodynamic psychotherapy.
Srivastava, Talukdar, and Lahan (2011)	28 weeks of daily sessions of meditation training vs 28 sessions for 30 minutes of group counseling	Non-controlled	30	Symptom decrease was observed in both groups. Fewer symptoms of depression, anxiety, and better global functioning in the meditation group compared to group counseling.
Cvetek (2008)	3 hours of EMDR vs active listening vs waiting list	RCT	90	EMDR produced significantly lower scores of subjective distress than the other groups.
Reschke and Teichmann (2008)	10 sessions of cognitive behavioral group therapy (problem solving) vs waiting list	Non-controlled	23	Decrease of psychopathology and increase in life satisfaction in both groups but significantly larger in intervention group. The EMDR group showed fewer symptoms of anxiety after memory recall.

Table 2 (*continued*)

Author	Intervention	Design	N	Results
Altenhöfer, Schulz, Schwab, and Eckert (2007)	12 sessions of client-centered psychotherapy vs waiting list	Non-controlled	50	Significantly less psychopathology and higher global level of functioning in intervention group. Effects were stable at 3-months follow-up.
Botella et al. (2006)	Prolonged exposure combined with “EMMA” program vs prolonged exposure	RCT	18	The intervention was rated less unpleasant in the EMMA condition than in the pure prolonged exposure condition.
Maina, Forner, and Bogetto (2005)	Approx. 20 sessions brief dynamic therapy vs brief supportive therapy vs waiting list	RCT	30	Brief dynamic and supportive therapies were equally effective at post-test and superior to waiting list control condition. Brief dynamic therapy was superior to supportive therapy at follow-up.
González-Jaimes and Tumbull-Plaza (2003)	24 sessions of mirror therapy vs Gestalt psychotherapy vs medical conversation vs waiting list	Non-controlled	144	Significant decrease of depression and health concerns in all groups. Larger symptom decrease for mirror psychotherapy compared to the remaining groups.
Van der Klink, Blonk, Schene, and Van Dijk (2003)	three month of activating intervention vs care as usual by physician	RCT	192	Shorter sickness leave in intervention group compared to care as usual. No group-difference with regard to psychopathology.

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1.4.6 Self-help: the potential for AjD

The literature shows that less than a third of the individuals suffering from a mental disorder have access to psychotherapy (Kessler et al., 2005; P. S. Wang et al., 2005). Even when valid and effective treatment approaches are available only a part of those suffering from a mental disorder take advantage of mental health services. For AjD, a prevalence study of elderly adults in Switzerland found a use of services rate of only 10% (Maercker et al., 2008). Barriers to using mental health services include individual attitudinal factors (e.g. fear of stigmatization) and system-level structural factors such as the cost of services (Sareen et al., 2007; Thompson, Hunt, & Issakidis, 2004). For emotionally distressed persons, the most common barriers are of attitudinal nature. They wish to solve their problem on their own or hope that the problem will disappear by itself. The importance of financial costs varies according to the socioeconomic status of the individual and is of lesser importance in affluent countries (Saldivia, Vicente, Kohn, Rioseco, & Torres, 2004; Sareen et al., 2007). Yet, the high numbers of individuals not seeking treatment for AjD indicate that conventional face-to-face psychotherapy does not answer the needs of all individuals affected by AjD and novel approaches could prove helpful in order to address this client group.

Self-help interventions, such as bibliotherapy, are a promising alternative to psychotherapy and may have the potential to overcome barriers and improve the availability of effective psychological treatments. Traditionally and most commonly they are unguided interventions without involvement of a therapist that can be applied most flexibly. Since the 1960s self-help interventions have been acceptable to large sections of the population. In recent years, traditional bibliotherapy has been supplemented by computer- and online based treatment approaches (Haug, Nordgreen, Öst, & Havik, 2012). They have the potential to support clients who wish to overcome their issues by themselves (attitudinal barriers) or do not have the financial possibilities to take advantage of mental health services (Mains & Scogin, 2003). Growing evidence

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suggests that self-help interventions with minimal or no therapist contact can be an effective treatment for depression (Cuijpers et al., 2011), anxiety disorders (Lewis, Pearce, & Bisson, 2012; Menchola, Arkowitz, & Burke, 2007), insomnia (van Straten & Cuijpers, 2009) or tinnitus (Nyenhuys, Golm, & Kröner-Herwig, 2013). Systematic meta-analyses on pure self-help treatments report that such treatments yield small to medium effect sizes (Cohen's $d = .20 - .76$; Cuijpers et al., 2011; Gould & Clum, 1993; Spek et al., 2007).

While self-help interventions are quite common for anxiety disorders and depression, only few studies on using self-help with stress-related disorders have been implemented. The results on their effectiveness for reducing PTSD symptoms are mixed. Ehlers et al. (2003) found a self-help booklet based on cognitive-behavioral principles for PTSD treatment to be no more effective with regard to symptom reduction than a repeated assessment control group, even though it was rated generally helpful by 88%-95% of the study participants. On the other hand, internet-based self-help interventions were effective in reducing symptoms of post-traumatic stress (Hirai & Clum, 2005; Z. Wang, Wang, & Maercker, 2013). Even though they did not conduct their studies under the label of self-help research or bibliotherapy, other authors evaluated the potential of self-administered expressive writing as a means of coping with stress and trauma and found encouraging results with regard to physical and mental health (Frisina, Borod, & Lepore, 2004; Pennebaker & Chung, 2007; Rasmussen & Tømm, 1992). For AjD, however, no disorder-specific self-help interventions are available. The only exception is the above mentioned program “EMMA’s world” (Botella et al., 2006) that can be used as a self-help component in combination with face-to-face therapy but not as a stand-alone intervention.

There are several reasons to assume that self-help interventions could be a particularly promising treatment approach for AjD. First, AjD is a frequent diagnose with a high number of individuals that would potentially benefit from cost-effective interventions. Second, AjD is commonly assumed to be a mild disorder with regard to symptom impairment, and spontaneous

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remissions are more common than with other disorders (Baumeister & Kufner, 2009; Strain & Diefenbacher, 2008). This creates a context in which the application of low-threshold interventions seems justified. Additionally, self-help treatments have a long tradition of being not only used for treating patients who show the full picture of a mental disorder but also be used by subclinical or community populations (Haug et al., 2012). Used in this way, they have the potential to prevent readers from developing clinically significant symptoms (Jorm & Griffiths, 2006) and make promising secondary prevention strategies. Prompt action after a critical event may avoid further complications such as losses and dysfunction at work, in school, or in the dyad (Strain & Diefenbacher, 2008). Finally, bibliotherapy is in keeping with recent efforts to establish stepped care models in mental health services (e.g. C. Williams & Martinez, 2008). Taken together, self-help interventions could be a highly useful strategy for preventing the development of chronic AjD after critical life events.

2 THE CURRENT WORK

This PhD thesis integrates two projects in the field of stress response syndromes. In each project, new materials were developed and evaluated. In study 1, a revised questionnaire measuring the intrapersonal resource of SOC was compiled and evaluated. Study 2 was devoted to the development and evaluation of a bibliotherapeutic self-help intervention for AjD. This chapter offers separate descriptions of the process of development of the materials and a summary of the respective evaluation studies.

2.1 Study 1: Development and evaluation of a revised Sense of Coherence questionnaire

The traditionally used scale for measuring SOC, the SOC-29 and SOC-13 scales (Antonovsky, 1987), have been associated with a number of shortcomings with regard to internal and external validity, stability, and utility outlined in chapter 1.3.3. The aim of this project was to refine the concept definition of SOC, to develop a questionnaire that captures the revised definition and to determine the psychometric properties of this questionnaire.

2.1.1 Development of SOC-R Scale

In order to omit that the new measure of SOC will again be blended with affectivity, as it was the case in previous attempts by other groups (Schmidt-Rathjens et al., 1997), the construct definition was revised and a special focus was set on a more pronounced distinction from related psychopathological constructs such as depression and anxiety. An extended panel of experts in the field of SOC, senior researchers, and master level students were consulted for their opinions on central aspects of SOC. The revised SOC concept definition was more strongly guided by the lexical meaning of the term “coherence” than Antonovsky’s original concept and described as the ability to perceive phenomena as connected to each other and to balance positive and negative experiences in life. According to this definition, 26 items assessed on a five point

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rating scale were generated (Kallenbach, 2012; Meier, 2012; Schaffert, 2012). In the process of item formulation, questionnaires measuring psychological constructs which are assumed to be related to SOC-R, such as optimism (LOT-R) or life attitude (LAP-R) have been consulted in order to operationalize SOC-R as a self-contained construct. During the first phase of construct definition and item development the author of this thesis was involved as a consultant to the project group.

The process of item selection and the shortening from 26 to 13 items is based on exploratory factor analyses and described in manuscript 1. The final 13 items were translated from German to English and back-translated by bilingual interpreters. Table 3 presents an exemplary item. The final scale is presented in Appendix A, deleted items including item statistics are presented in Appendix B.

Table 3 *Exemplary item of the SOC-R Scale*

	<i>not at all true</i>	<i>slightly true</i>	<i>some- what true</i>	<i>quite true</i>	<i>very true</i>
In spite of everything, I can learn from bad experiences.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.1.2 Summary of manuscript 1: A revised Sense of Coherence Scale

Background and objectives: Traditionally, clinical and health psychology investigates the causes and pathways of how stress has a negative impact on mental health. However, a growing body of research is focusing on resources that help individuals cope with stress and adversity. The present study introduces a revised Sense of Coherence (SOC) Scale, a new conceptualization and operationalization of the intrapersonal resilience indicator SOC (Antonovsky, 1979). This study outlines the scale development and aims for testing its reliability, factor structure, and validity.

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Method: A pool of 26 items was investigated in a sample 334 bereaved participants who had lost a close family member 6 to 60 months prior to measurement ($M = 27.29$ months, $SD = 15.15$). In exploratory factor analyses, 13 items best covering the concept definition were elicited. In order to cross-validate the questionnaire a second sample of 157 healthy controls from the general population was recruited. The revised SOC Scale, SOC-A, and theoretically relevant questionnaires were applied.

Results: In both samples, explorative and confirmatory factor analyses established a 3-factor structure with the subscales manageability, reflection, and balance. Concerning the factor structure, exploratory and confirmatory analyses indicated that a 3-factor model best fit the data in both samples. With regard to external validity, results showed significant but discriminative associations with related constructs such as self-efficacy, posttraumatic growth, optimism and neuroticism ($r = -.18$ to $.52$). SOC-R was significantly associated with psychological health indicators such as persistent grief, depression, and anxiety ($r = .25$ to $-.48$) but not to such an extent as the previous SOC version ($r = .53$ to $.77$). Stability of SOC-R over four weeks ($r = .84$) and 15 months ($r = .74$) was sufficient.

Conclusion: The study provides psychometric support for the new SOC-R concept and scale. The scale has several advantages over the previous SOC scale, e.g. a clear factor structure, distinctness from related constructs, and stability. Future research should, however, look at interactions of severe life or traumatic stress events with potential change in SOC-R. As with the previous SOC model, the new SOC-R might serve as an important identifier for resilient persons after experiencing highly stressful life events.

2.2 Study 2: Development and evaluation of a self-help manual for adjustment disorder

The aim of study 2 was to write and evaluate a set of self-help materials with the potential to support readers to cope with symptoms of AjD. The intervention study investigated the effectiveness, compliance, and satisfaction with the manual in a randomized controlled trial (RCT).

2.2.1 Development and content of the self-help manual

The theoretical rational for this manual was provided by the new explicit stress response syndrome model for diagnosing AjD (Maercker et al., 2007) which directed the writing process to explicitly include exercises to treat preoccupation with the stressor and failure to adapt symptoms. The manual is based on a CBT background, which is in line with most evaluated self-help interventions for other mental disorders. The self-help materials include exercises that are known and evaluated in CBT for the treatment of depression or anxiety, such as thought stop techniques (Tyron, 2008) but also the activation of resources (Bengel & Hubert, 2010). Of special importance were other disorder-specific intervention approaches as presented in section 1.4.4 of this thesis, namely the therapy program for adjustment disorders (TAPS; Reschke & Teichmann, 2008), the materials provided by Hoffmann and Hofmann (2008), but also PTSD-specific interventions from an online therapy manual (Knaevelsrud & Maercker, 2007; Lange et al., 2003).

The manual consists of three parts of which sections are presented in Appendix C in German language (“Ist es noch mein Zuhause”). Part one contains information on stress response symptoms that are typical after stressful life events. Furthermore, this part includes a screening test for AjD symptoms. In part two, we give information on the causes and symptoms of AjD and provide a checklist for evaluating whether face-to-face contact with a mental health professional

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is necessary. Part three constitutes the main body of the manual and is organized into four sub-chapters. (1) Sense of self: the focus is on understanding one's personal stress response. This subchapter aims to organize the often confusing emotions and physical symptoms. Personal risk and protective factors that affect the stress response are analyzed and the link between thoughts and emotions is illustrated. (2) Coping: this chapter presents strategies for the management of ruminations and anxieties. Inspired from online PTSD treatment, a written exposure exercise was included. (3) Activation: the reader is encouraged to carry out exercises that evoke positive emotions and activate personal resources. For example, we included a life review task that focuses on successful coping with past life difficulties. The reader is encouraged to keep up one's previous life style and for example not to give up positive activities. (4) Recovery: the importance of finding a balance between activity and relaxation is stressed. This chapter contains information and exercises on sleep hygiene, imaginary time out and relaxation techniques. The original version was written in German, translations to French and Italian are available.

The development of the manual was financially supported by the Swiss insurance company Mobiliar, which defined burglary victims as the target group. The manual in its present form is therefore contextualized to this specific example of a stressful life event. Victims of criminal acts such as burglary tend to suffer from symptoms of AjD or post-traumatic stress in the aftermath of the event (Kilpatrick, Saunders, Veronen, Best, & Von, 1987; Kunst, Rutten, & Knijf, 2013; Maercker et al., 2012; Mol et al., 2005). More specifically, symptoms range from anxiety, anger, and hostility to sadness (Beaton, Cook, Kavanagh, & Herrington, 2000). Victims also frequently report avoidance of thoughts and feelings related to the event and concern for the future in combination with hypervigilance (Caballero, Ramos, & Saltijeral, 2000) as well as a decreased sense of safety (Derrer & Jann, 2013). The subsequent evaluation study was conducted independently from the insurance company.

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2.2.2 Summary of manuscript 2: A self-help intervention for adjustment disorder

Background: Despite the fact that AjD is a frequent diagnose in clinical practice, surprisingly few disorder-specific interventions exist. The high need for treatment and the transient character of AjD point towards applying low-threshold interventions. Hence, a new cognitive-behavioral self-help manual for AjD was developed and evaluated. The revised ICD-11 stress response syndrome model of AjD provided the theoretical background of the intervention.

Method: Participants were burglary victims showing clinical or subclinical AjD, measured by the Adjustment Disorder – New Module questionnaire. An experimental group working with the manual for one month without therapist contact was compared to a waitlist control group in a RCT (intervention group $n = 30$; waiting-list control group $n = 24$).

Results: Group by time interactions in the intervention group indicated significantly larger symptom decrease in the AjD symptom group of preoccupations (Cohen's $d = .67$) and in PTSD symptoms according to the ICD-11 diagnostic model ($d = .66$). Non-significant interaction effects were found for failure to adapt symptoms ($d = .34$), depression ($d = .25$), and anxiety ($d = .19$). A higher proportion of participants showed reliable change in the intervention group with stable effects at follow-up. Treatment satisfaction was high, as was engagement with 87% of participants having worked through at least half the manual.

Conclusions: This was the first RCT evaluating a disorder-specific self-help manual for AjD. The current results support the effectiveness of the self-help manual for reducing symptoms of preoccupation and PTSD. Due to wide availability and cost-effectiveness, self-help interventions are promising means to reduce the number of untreated AjD patients in the population.

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The following sections present a general discussion of the results obtained in this PhD thesis. First, the findings of study 1 on the development and evaluation of a revised SOC scale are discussed and integrated with existing research. Second, the results of study 2 on the evaluation of a self-help manual are assimilated likewise. For both projects, a special focus is put on implications for future research and clinical applicability. Ideas that have already been discussed in the manuscripts that are part of this thesis will not be addressed again. Finally, a brief outlook on the potential of future studies that investigate SOC-R in the context of self-help interventions is presented. The chapter ends with a general conclusion.

3.1 A revised Sense of Coherence Scale

3.1.1 Recent developments

The exploration of health-protective resources that started more than 35 years ago still inspires a great amount of research, although the keyword of salutogenesis is nowadays less frequently used to subsume this line of investigation. More often, the umbrella paradigm of resilience, including social, interpersonal, and intrapersonal factors is employed. Another contemporary approach in the line of Antonovsky's salutogenetic argument is the positive psychology movement, which further advances the shift from the emphasis on dysfunction and disease towards a focus on well-being, resources, strengths and positive mental health (Coulter, 2014; Sagy, 2013; Seligman, 2002). However, the SOC-A concept still attracts considerable interest and new studies are published continuously. In 2014 and the first half of 2015, a total of 151 studies were identified that investigated SOC-A as a primary variable of interest and were published in peer reviewed journals (Online search: 01.08.2015). Of these studies, eight were concerned with examining the validity of the SOC-A concept while the remaining publications appeared to be using the questionnaire despite its known methodological difficulties.

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Several of the validation studies were devoted to investigating the SOC-13 and SOC-29 in specific subgroups such as older adults (von Humboldt & Leal, 2015), pregnant women (Ferguson, Davis, Browne, & Taylor, 2015), or adolescents (Moksnes & Haugan, 2014), and conclude that the questionnaires are applicable to their area of interest. Dantas, e Silva, and Ciol (2014) investigated a cultural adaptation of the SOC-A questionnaires to Brazilian Portuguese language. As in the earlier literature, the results of all these studies were encouraging with regard to the internal consistency of the measure. On the other hand, the factorial structure again yielded heterogeneous solutions and correlations with mental health aspects ranged within the same dimensions as reported in chapter 1.3.2 of this thesis.

Grevenstein and Bluemke (2015) devoted a study to the question whether SOC-A is a construct distinguishable from the Big Five personality factors (McCrae & Costa, 1987), focusing mainly on neuroticism. The authors found that 40% of the variance in SOC-A was covered by the Big Five and that SOC-A explained variance in mental health above and beyond the personality variables. It was concluded that SOC-A cannot be equated with reversed neuroticism. However, the authors did not address the fact that a correlation of $-.70$ was found between SOC-A and mental health as measured by the Symptom Checklist-K-9 (Klaghofer & Brähler, 2001). If the SOC-A questionnaire measures a correlate of an individual's present mental state, the explanatory power beyond traits is not surprising. Second, Gruszczyńska (2014) investigated the discriminant validity of SOC-A versus trait anxiety in explaining the emotional state in an experimental task. It was found that correlations between emotional state and SOC-A did not differ significantly from the absolute values of the relevant correlations with trait anxiety. Insufficient discriminant validity of the SOC-29 as a measure of the salutogenic construct was concluded in this study. Third, Fossion et al. (2014) tried to disentangle SOC-A from resilience and identified two aspects: a part of SOC-A that is an aptitude mediating the relationship between stress and mental health, similar to the concept of resilience, and a more stable part that

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resembles a personality trait. Finally, a Zurich research group around Bauer, Vogt, Inauen, and Jenny (2015) developed a context-specific SOC scale for measuring SOC-A in the professional environment. The questionnaire consists of 9 items (bipolar adjectives), rated on a 7-point Likert scale, that describe Antonovsky's three dimensions of manageability, meaningfulness, and comprehensibility. Factor analyses produced satisfying internal consistency for the subscales (Cronbach's $\alpha = .72 - .84$) and correlations with aspects of mental health ranged between $r = -.26$ for psychosomatic complaints, $r = -.31$ for sleep problems, and $r = -.44$ for exhaustion. These correlations are lower than usually observed for SOC-A and health. However, this is not surprising considering the fact that a contextualization of SOC-A to the working environment had been defined. The association with affective state should naturally be smaller after such a specification.

In conclusion, the vast majority of SOC-studies conducted in the course of the past 18 months used the SOC-A concept and questionnaires to undertake primary research, notwithstanding the psychometric constraints. Those studies that chose to examine the construct validity were unable to resolve the ambiguities of the SOC-A scales. Contrary to our approach described in chapter 2.1.1, the study that evaluated a new version of the SOC-A questionnaire (Bauer et al., 2015) did not introduce any conceptual revisions of Antonovsky's (1979) definition. This was also the case for Schmidt-Rathjens' (1997) attempt of constructing a parallel SOC-A Scale, which produced similarly low discriminative power as the original measure. In the following, the theoretical implications of the conceptually revised SOC-R construct are discussed.

3.1.2 Theoretical implications of SOC-R

The purpose of study 1 was to develop and evaluate a new concept and questionnaire measuring SOC that overcomes previous shortcomings of SOC-A. Antonovsky's definition was refined and specified as the general ability to perceive life phenomena as connected and to

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balance positive and negative appraisals of life experiences. By this approach we intended to achieve a more distinct profile of SOC. A 13-item questionnaire with three subscales of manageability, reflection, and balance was the result. The reported findings of paper 1 provide initial support of its assumed underlying factor structure, the reliability of the questionnaire, and the convergent and discriminant validity. In the following, the additional value and theoretical implications of the concept will be discussed.

The mechanisms of how SOC-R could play a role in the adaptation process to a stressor can at present only be discussed from a theoretical perspective. Whether a person adjusts to a stressor or develops a mental disorder is in Horowitz's model of stress response syndromes determined by successful mastering of the final phase of working-through the experience (Horowitz, 1997). On a theoretical level, it can be assumed that a persons' ability to take different perspectives or understand connections between events (reflection), the ability to deal or to come to terms with difficult situations (manageability), and meta-heuristics for balancing positive and negative experiences and feelings (balance) would all be crucial steps in the working-through process. The SOC-R concept therefore appears to have potential for providing a rational to capture intrapersonal salutogenetic processes. Contrary to the SOC-A questionnaires, the SOC-R measure does not show exceedingly high correlations with instruments measuring aspects of the current mental health state, such as depression or anxiety. SOC-R is also distinct from several related concepts such as self-efficacy, optimism, or post-traumatic growth. Even as, based on the correlational nature of the findings, no information on causality can be obtained from study 1, the results provide initial support for the assumption that SOC-R is a valuable addition to the family of intrapersonal concepts that collectively contribute to the dynamic process of resilience and, in consequence, to the maintenance of health under adverse conditions.

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3.1.3 Implications for future research

The following paragraphs introduce ideas for future projects that involve SOC-R either for further construct validation or as a predictor of health outcomes. Since paper 1 is the first study that investigates the new concept and questionnaire for measuring SOC-R, further validation is needed in order to establish the psychometric properties of the scale and, importantly, to replicate the factor structure. Populations other than bereaved individuals should be recruited in order to obtain information on the generalizability of the SOC-R measure. A special focus should be set on accessing samples with equal gender distribution and a culturally diverse background. In addition, clinical interviews instead of self-report questionnaires should be conducted in order to determine the symptom severity in stressed populations.

Moreover, aspects of the construct validity of the SOC-R Scale should be further examined. Even though several SOC-R-related concepts were part of this first evaluation study (i.e. self-efficacy, optimism, post-traumatic growth), other conceptually related intrapersonal resources have not yet been considered, such as wisdom, personal growth, or meaning making. It would be particularly interesting to explore how SOC-R relates to measures of personal wisdom (Mickler & Staudinger, 2008), since a significant conceptual overlap exists. Wisdom theorists generally assume that personal wisdom is acquired through confrontation with life events that trigger questions on the fundamental themes and questions of the human existence. The MORE Life Experience Model by Glück and Bluck (2013) presents a theory on how personal wisdom develops and incorporates several components that resemble SOC-R. According to the model, certain individual resources determine whether persons learn from negative experiences and become wiser or otherwise become rigid, bitter, and depressed. The four resources of mastery, openness, reflectivity, and emotion regulation are considered a “positive syndrome” that enables individuals to deal with life challenges in a wisdom-fostering way (Glück & Bluck, 2013).

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Mastery as the belief in one's own ability to deal with difficulties is congruent with the manageability components of SOC-R and SOC-A. Reflectivity, defined as the willingness to look at phenomena in a complex way, strongly resembles the SOC-R reflection component, and emotion regulation is associated with both manageability and balance in SOC-R. While the MORE Life Experience Model components of openness and empathy are not directly linked to the SOC-R concept, the other MORE resources may be subsumed by SOC-R. Future studies should investigate SOC-R as a wisdom-fostering factor.

Once the validity of the SOC-R concept and questionnaire has been further confirmed, it will be important to discern the long-term trajectory of reports to determine how SOC-R develops during the course of one's life. It is the general assumption that a person's SOC-R is fairly stable across the lifespan. Initial support is provided by the data of manuscript 1 which show no cross-sectional age-trend and a high retest reliability across 15 months. When investigating the age trends of related concepts, no clear prediction can be deduced for SOC-R. While self-efficacy and general wisdom show no age differences between younger and older adults (Staudinger, 1999; Trouillet, Gana, Lourel, & Fort, 2009), optimism and personal wisdom seemed to decrease across the lifespan (Lennings, 2000; Mickler & Staudinger, 2008), and narrative coherence tended to increase (Reese et al., 2011). However, all of these studies were of a cross-sectional nature. Longitudinal research is needed in order to reliably answer questions on lifespan development of SOC-R.

Despite the general assumption of stability, it seems likely that SOC-R can be influenced by highly stressful life events whereupon either an increase or decrease of SOC-R may take place. If one assumes that SOC develops as a result of learning experiences which accumulate over the course of life, it is possible that individuals with a high SOC-R profit from their own experience of connectedness and balance and consequently their SOC-R increases. On the other hand, those who have a weak SOC would lack to make such positive experiences and their

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SOC-R would further decrease when they are confronted with stressful life events. Future research should consider the question of the determinants of individual trajectories of SOC development after adverse life events. Potentially, the total number of life events might be related to either positive or negative impact of a stress experience on SOC-R. Mickler and Staudinger (2008) found a U-shaped relation between personal wisdom and the total amount of self-reported positive and negative life events. They concluded, that a medium amount of life events created the best developmental context for individuals to think about their lives and to develop wisdom-related knowledge. This could also be true for SOC-R, as a large number of life events might be too daunting to cope with.

3.1.4 Clinical implications

A reliable and valid measure of SOC may prove a useful tool for clinical practice in different ways. The following sections present an overview of possible clinical implications and areas of application of the SOC-R Scale.

First, if the scale has the potential to tap the ability of a person to react to a stressor in a health-promoting way, it could be used for early identification of persons that are at risk for developing psychological disorders after experiencing stressful life events. Low SOC-R values would be considered a risk factor for the development of stress response disorders. Consequently, a clinician could single out individuals who are in greater need of support from mental-health services. As repeatedly proposed in models of stepped care (Salloum, Scheeringa, Cohen, & Storch, 2014; C. Williams & Martinez, 2008), a low-threshold intervention could be offered to individuals with poorer resources in the domain of SOC-R.

Secondly, assuming that SOC is a resource not carved in stone but that it could be addressed by deliberate interventions, it seems worthwhile to ask if and how it could best be promoted. As other authors have mentioned, the salutogenetic approach has had a significant impact on

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the field of psychotherapy. The approach implies a shift of the therapeutic focus from intervening with dysfunctions towards the activation of resources that promote health and resilience (e.g. Sagy, 2013; Vossler, 2012). In his model of research-informed psychotherapy, Grawe (1997) defined resource activation as one of four basic mechanisms of change. Congruent with Antonovsky (1979), he outlined that “resources must be activated and used as effectively as possible by the therapist because they are the actual motor that drives the therapeutic endeavor. The skillful management of this fourth mechanism of change, designated resource activation, represents the alpha and omega of effective therapy“ (Grawe, 1997, p. 6).

Given that SOC-A has been a well-known construct for decades, surprisingly few attempts were made to develop specific interventions or even to use SOC-A as an outcome variable in psychotherapy studies. Among the existing studies, positive effects of interventions were recorded in a project evaluating a mindfulness-based stress reduction program (Weissbecker et al., 2002), in talk-therapy groups based on salutogenetic principles (Langeland et al., 2006), and in long-term psychoanalysis (Lazar et al., 2006). However, due to the blending of SOC-A and affectivity, the significance of these results is questionable. The increase in SOC-A is likely to simply reflect a decrease in distress. Consequently, the introduction of a valid measure of SOC may provide new opportunities to investigate salutogenetic processes in psychotherapy research and to foster this intrapersonal resource in interventions. In the following, options to strengthen the individual components of SOC-R will be explored.

The literature has already identified particular potential to strengthen intrapersonal resources such as SOC in narrative therapies (e.g. White & Epston, 1990). Such interventions accentuate individuals as the experts in their own lives and focus on the development of alternate meanings and orientations towards the internal and external environment (Hutchinson & Lema, 2009; Vossler, 2012). In a similar line of thinking, life-review interventions could be

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beneficial to address SOC-R. Life-review interventions were originally developed in social gerontology and have been shown effective for individuals confronted with traumatic experiences (see Maercker & Bachem, 2013). Maercker (2002) described three active principles of life-review interventions: (1) through promoting a balanced accounting of positive and negative memories (“ups and downs in life”), a sense of life balance is strengthened. The therapist enhances the dominance of positive memories over negative ones. (2) The intervention focuses on finding meaning in negative experiences, even in trauma, and enhances personal and post-traumatic growth processes. (3) The memories are elaborated and remembered in greater detail. Not only negative aspects but also positive ones are remembered. The concept definition of SOC-R as the ability to balance positive and negative experiences in life and to perceive phenomena as connected to each other is directly addressed by two of the active ingredients of life-review interventions, namely (1) life balance and (3) elaboration of memory. It could therefore be hypothesized that the mechanism by which life-review interventions change mental health is determined by a strengthening of SOC-R.

If the subscales of manageability, reflection, and balance represent aspects of the mechanism by which SOC-R promotes resilience, they advocate several further intervention approaches. It was argued by Weissbecker et al. (2002) that mindfulness-based interventions foster adaptive responses to stress and thereby promote a sense of manageability, which is a component of SOC-A as well as SOC-R. In case of SOC-R, third wave CBT approaches such as mindfulness-based cognitive therapy (MBCT; M. Williams, Teasdale, & Segal, 2007) or Acceptance and Commitment Therapy (ACT; Hayes, Luoma, Bond, Masuda, & Lillis, 2006) might be related to the components of manageability as well as balance. At the core of these interventions is an accepting and non-judgmental focusing of one's attention on emotions, thoughts and sensations. On the item level, this mode of action seems strongly related to the content of the manageability scale (e.g. Item 9 “I can accept things that cannot be changed”)

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and balance scale (e.g. Item 2 “evil also has its place in the world”). It is possible that third wave CBT techniques could strengthen SOC-R in a preventive way and thereby increase one’s resistance to stressful life events.

The SOC-R component of manageability describes an individual’s belief that he or she has the ability to handle difficult situations either by action (e.g. item 7 “One can always find a way to cope with painful things in life”) or by employing strategies of secondary control. Secondary control strategies (Heckhausen, 2006) are developmental regulation strategies such as the anticipation and imagination of success, enhancement of perceptions of personal control or the adjustment of expectations. This is reflected in item 9 (“I can accept things that cannot be changed”) but as well in item 4 of the balance scale (“I am convinced that a lot of negative feelings also have positive sides”). The usage of secondary control strategies starts increasing in early midlife. In the literature, they are discussed as compensatory strategies for age-related losses in primary-control, which involve actively modifying the environment. However, even earlier in life they might be adequate means to cope with stressful and traumatic life events that cannot be unchanged. For example, a study on adolescents who experienced traumatization in the Bosnian war showed that secondary control engagement resulted in fewer symptoms of post-traumatic stress (Howell et al., 2015). The employment of secondary control strategies could therefore be promoted in trauma therapy and would potentially increase a patient’s SOC-R, especially on the manageability scale.

Finally, the component of reflection calls for cognitive interventions that promote the evaluation of a situation as well as considering different perspectives. Assuming that maladaptive behavior is triggered by inappropriate or irrational thinking patterns, cognitive therapy (Beck, 1979) focuses on changing these thought patterns by examining the rationality and validity of the assumptions behind them. Intervention techniques such as validity testing (a patient is encouraged to question his assumptions in order to recognize their invalidity) or guided discovery

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(the therapist asks questions designed to guide the patient towards the discovery of his cognitive distortions) are proposed. They strongly resemble the intrapersonal processes that a person high on SOC-R-reflection might produce on his or her own (e.g. Item 13: “I put effort into considering different perspectives when I am exposed to problematic situations”; Item 12 “I always try to see things in context”).

In summary, it is assumed that the most straight-forward approach to address SOC-R in an intervention would be the implementation of structured life-review therapy. Moreover, approaches such as MBCT or ACT, cognitive interventions, and the fostering of secondary control are expected to positively influence the strengthening SOC-R. However, further psychometric and conceptual validation of the questionnaire should precede the development and testing of respective interventions strategies.

3.2 A self-help manual for adjustment disorder

The following sections offer a discussion of the findings obtained in the intervention study that evaluated a newly compiled self-help manual for individuals suffering from AjD (study 2). At first, the recent developments in the field of AjD intervention research are presented. Second, selected results from the intervention study are discussed in a broader context than the limited space of manuscript 2 allowed. Thereafter follow several proposals on the research- and clinical implications of these findings.

3.2.1 Recent developments

The fact that AjD is a severely understudied diagnose is likely connected to the insufficient diagnostic guidelines of ICD-10 and DSM-IV, as well as the absence of structured diagnostic interview schedules. With the appearance of DSM-5 in 2013 some improvements were implemented to the diagnosis of AjD, such as its inclusion in the new chapter of trauma and stress-related disorders. However, DSM-5 did not introduce specific criteria with symptom numbers

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and combinations nor did it establish concrete guidance to distinguish AjD from normal stress reactions (Casey, 2014). Consequently, there still is limited research interest on the topic. The following paragraphs subsume trials on investigating AjD interventions which were conducted after the release of DSM-5. The investigated publication period encompasses January 2014 to July 2015 (online search: 07.08.2015).

First, the study by Hsiao et al. (2014) focused on evaluating an AjD intervention of 8 weeks body-mind-spirit group psychotherapy versus a psychoeducation-only control condition. The authors found no difference in psychopathology between the groups, though the intervention group reported less suicidal ideation and healthier cortisol patterns. Second, Dalgaard et al. (2014) investigated participants suffering from work-related AjD and compared six sessions of individual CBT over 16 weeks to a brief two-hour workplace intervention. Significant improvement was found in both groups with no significant difference between them. Finally, two case study on AjD treatment were published, one of them featuring a young male infected with the Ebola virus who suffered from subsequent AjD. Successful treatment via brief supportive psychotherapy and problem solving therapy was documented for this patient (Mohammed et al., 2015). The second case study reported on the usage of ACT for a client diagnosed with AjD with mixed anxiety and depressive symptoms (Wiggs & Drake, 2015). In 14 sessions, higher psychological flexibility and a decrease of general psychological distress was achieved. In the domain of secondary prevention, a recent study investigated a high-risk medical population without explicitly assessing an AjD diagnose (Robb et al., 2014). A therapeutic music video intervention was delivered to adolescents during the acute phase of hematopoietic stem cell transplant. Compared to an active control group that listened to non-therapeutic audiobooks, the intervention group showed improved courageous coping and better social integration and family environment 100 days post-transplant though no measure of psychopathology was utilized.

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There are, however, a number of studies recently conducted that included patients with AjD along with individuals suffering from anxiety disorders and depression. Sundquist et al. (2015) compared mindfulness group therapy to a treatment as usual condition that comprised of CBT on an individual basis and found non-inferiority of the group intervention. However, no disorder-specific evaluation of the treatment approaches was computed. Furthermore, one study investigated the effects of an eight-session assertiveness training in a mixed patient group, in which AjD patients represented the largest subgroup, and found an increase in assertiveness but not in social anxiety or self-esteem (Lin et al., 2008). Finally, Ruesch, Helmes, and Bengel (2015) recognized AjD as one of the most common psychiatric comorbidities in patients with a chronic somatoform disorder. They presented a study protocol for the evaluation of CBT-group therapy in somatic patients with either comorbid depression or AjD but did not yet start the trial.

In summary, AjD has gotten little but some research interest in the course of the 18 months past. There appears to be a trend towards low and medium intensity interventions such as group therapy (Hsiao et al., 2014; Sundquist et al., 2015) or interventions requiring small numbers of sessions (Dalgaard et al., 2014; Mohammed et al., 2015). Noticeably, in several of these intervention studies significant treatment effects were not found in psychopathological symptoms but rather on secondary indicators of mental health such as cortisol patterns or assertiveness (Dalgaard et al., 2014; Hsiao et al., 2014; Robb et al., 2014). One difficulty discussed in these studies was that recovery with regard to psychopathology occurred in the control condition as well as the intervention group. This is likely one of the reasons why the symptom decrease in the intervention group did not reach statistical significance (e.g. Dalgaard et al., 2014).

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3.2.2 Further discussion of the main results

In the scope of study 2, a self-help intervention for treating symptoms of AjD was developed. This project adds to the literature on AjD in several ways. It is the first self-help intervention that explicitly focuses on alleviating symptoms of AjD. It is also the first intervention that is based on the theoretical conceptualization of AjD as a stress response syndrome. The results of manuscript 2 propose that this approach is a feasible and effective one. This section presents an elaboration of the findings on the effectiveness of the manual above and beyond the interpretation in manuscript 2. The selective effectiveness for the symptom clusters of preoccupations and post-traumatic stress symptoms is discussed in detail.

The results of study 2 showed that the intervention was particularly successful in reducing AjD symptoms of preoccupations ($p = .01$; Cohen's $d = .67$) and post-traumatic stress symptoms ($p = .02$; Cohen's $d = .66$). The other scales failed to reach significance despite small but substantial effect sizes: failure to adapt ($p = .07$; $d = .34$), anxiety ($p = .07$; $d = .19$), depression ($p = .31$; $d = .25$), and stress ($p = .43$; $d = .17$). These findings propose that the study did not achieve enough power to disclose small effects in a statistically significant manner. In the *a priori* power calculation, a medium effect size had been assumed. This assumption was based on previous studies of bibliotherapeutic self-help interventions for anxiety disorders and depression (Cuijpers et al., 2011; Gould & Clum, 1993; Lewis et al., 2012; Menchola et al., 2007). The power calculation indicated that a sample size of 54 would be adequate to pinpoint intervention effects. However, as our sample consisted of clinical and subclinical participants it is possible that due to the reduced homogeneity, statistical power was lost. Furthermore, it may be assumed that less natural recovery takes place in anxiety disorders and depression than in AjD. The fact that the control group in study 2 also experienced significant symptom improvement raised the threshold for achieving a significant interaction effect between the conditions.

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In conclusion, it is imperative that future studies on self-help interventions for AjD recruit larger sample sizes.

Independent of statistical significance, the intervention did reduce preoccupations to a larger extent than failure to adapt symptoms. On the one hand, this finding implies that the content of the manual is particularly well suited to improve preoccupations but impacts failure to adapt to a lesser extent. This explanation is plausible as specific exercises for the management of intrusive memories have been included in the manual. On the other hand, there is a possibility that this result is specific to the sample of manuscript 2. The pre-intervention preoccupation values were distinctly higher than the failure to adapt values ($M = 12.13$, $SD = 2.54$ for preoccupation vs. $M = 8.90$, $SD = 2.55$ for failure to adapt). Higher initial symptom impairment leaves more room for improvement and consequently a higher chance for clinically and statistically significant symptom decrease. A third explanation for the selective effectiveness in the domain of preoccupation may be of conceptual nature. The ADN-20 scale of failure to adapt encompasses quite heterogeneous symptoms such as difficulties concentrating or sleeping and neglect of pleasant activities. Contrarily, the preoccupation scale covers a homogeneous symptom cluster of unbidden thoughts. This difference in homogeneity is mirrored in the representation of Cronbach's α values ($\alpha = .80$ for preoccupations; $\alpha = .69$ for failure to adapt). For achieving decreased values on the failure to adapt scale, change has to involve different domains of functioning, which could be difficult to achieve in a low-threshold intervention of unguided self-help.

In addition to the changes described in the AjD core symptom groups, a significant reduction of post-traumatic stress symptoms according to the ICD-11 diagnostic model ($d = .66$) was observed. This finding contrasts to Ehlers et al. (2003) study which concluded that an unguided CBT self-help manual was unable to reduce PTSD symptoms. However, there are fundamental differences between the studies, most notably in the choice of participants. While Ehlers et al.

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(2003) investigated participants who showed the full clinical presentation of PTSD, the present study focused on individuals suffering from subclinical and clinical AjD. The symptom impairment in the present study was distinctly lower. As outlined in section 1.4, we propose that self-help interventions are particularly suited techniques for AjD because it is a mild disorder. The present finding is supportive of this hypothesis.

Taken together, study 2 was the first RCT evaluating a disorder-specific self-help manual for AjD. This seems to be a promising approach, yet the effectiveness of the intervention was limited to the homogeneous symptom groups of AjD preoccupations and symptoms of post-traumatic stress. The effectiveness in the domain of failure to adapt symptoms should be subject to further exploration in future studies. In the following paragraphs, attention will be directed towards other questions that require further study in relation to the self-help approach in AjD.

3.2.3 Implications for future research

In naturalistic settings, AjD account for up to one third of the diagnoses assigned, yet this clientele is rarely represented in therapy outcome research. The need for intervention studies in this field has been heavily emphasized (e.g. Stirman et al., 2003). However, in order to develop intervention tools, reliable information on the nature of a disorder is important. To date, little basic research has been conducted in the field of AjD and, moreover, the introduction of the stress response model of AjD in ICD-11 will raise new questions in this respect. In the following, inputs for future basic research on AjD are proposed and suggestions are made on how the results of study 2 could be refined.

Valid measurement instruments are indispensable for further research on AjD. Due to the inadequate diagnostic criteria it has been difficult to reliably identify patients with AjD in structured diagnostic interviews. For instance, clinicians identified an AjD prevalence of 36% in a psychiatric out-patient sample while the Structural Clinical Interview for DSM-IV (SCID) only

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recognized an 11% prevalence (Shear et al., 2000). This discrepancy is likely due to the fact that structured interviews only consider AjD after all other diagnoses have been excluded (Casey & Doherty, 2012). As AjD remains a subthreshold disorder in DSM-5 it is unlikely that the DSM-related diagnostic practice will change in the near future. However, due to the fundamental conceptual changes to AjD in ICD-11, new instruments are required that capture the diagnosis' specific symptom criteria of preoccupation and failure to adapt. The Adjustment Disorder – New Module (ADNM) questionnaire is the first instrument with this capacity and has been validated in several samples (Dannemann, 2010; Einsle et al., 2010; Glaesmer et al., 2015; Maercker et al., 2007). As the symptom criteria for AjD have been altered and refined since their introduction in 2007, the developmental process of the ADNM cannot yet be considered final. Future studies need to determine the ultimate structure of the ADNM instrument. Moreover, in order to establish convergent validity, a second measure capturing the stress response concept of AjD will be necessary.

After publication of the ICD-11 and its explicit stress response model of AjD, new prevalence studies should be conducted for this diagnose. As Gradus et al. (2014) noted, incidence and prevalence of a disorder depend on the diagnostic practices of clinicians. These authors observed a sudden increase in stress-related diagnoses in Denmark during 2007 which they attributed to nationwide congress on the topic of health care after traumatic experiences. It was assumed that a shift in clinical attention had taken place. Consequently, it seems likely that the introduction of essential alterations to the diagnostic criteria of AjD and their inclusion in a chapter of stress-related disorders in DSM-5 and ICD-11 will also have an impact on clinical attention and diagnostic practices and ultimately influence prevalence rates.

With regard to symptom impairment, AjD is generally considered to be a mild disorder and by proposing to treat it with a low-threshold, low-intensity self-help manual we agree with this position to a certain extent. On the other hand, some authors argue that this may be an erroneous

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belief (Casey, Jabbar, O’Leary, & Doherty, 2015; Pelkonen, Marttunen, Henriksson, & Lönnqvist, 2005). AjD was the most common diagnosis in individuals that engage in deliberate self-harm (suicide attempts, suicidal threats or ideation) with up to 25% AjD in self-harming adolescents (Pelkonen et al., 2005) and 60% AjD in self-harming adults (Kryzhanovskaya & Canterbury, 2001). Furthermore, one quarter of the male suicide victims in a Finnish study had been attested an AjD (Lönnqvist et al., 1995). Nevertheless, suicidality has been under-researched in AjD and research focused instead on well-established mood disorders such as depression (Casey et al., 2015). In the light of these findings, more research is needed on aspects of suicidality in AjD patients, which may provide the necessary information to identify cases that can be unscrupulously treated by low-threshold interventions and provide a rationale to refer more severe cases to a mental health professional.

In the following, the limitations of study 2 which have not yet been subject to extensive discussion in manuscript 2 will be addressed and recommendations for future research in the domain of self-help with this population will be proposed. As mentioned above, one reason why study 2 may have failed to identify significant intervention effects for failure to adapt symptoms as well as the secondary outcomes of depression, anxiety, and stress is the modest sample size. First and foremost, it is considered imperative that future studies on the self-help manual under discussion recruit larger sample sizes. It is also proposed that several other considerations will be made with regard to future sampling processes. The present study investigated a group of participants suffering from various levels of symptom impairment. This approach was deliberately chosen to increase sample size and to approximate real-life conditions for individuals interested in self-help. It is a common procedure in studies on low-intensity interventions such as self-help (e.g. Febraro, Clum, Roodman, & Wright, 1999; Mead et al., 2005; Nordin, Carlbring, Cuijpers, & Andersson, 2010). However, in the case of AjD no algorithm was available to *a priori* define a specific threshold for subclinical impairment and the

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threshold for inclusion in the final sample on which manuscript 2 is based was determined post hoc. In future research such a post hoc definition of inclusion criteria should be omitted. An empirically valid but theory-based threshold for subclinical impairment should be determined.

Study 2 was conducted with the specific sample case of victims of domestic burglary who show symptoms of AjD. Though victims of criminal acts such as burglary tend to suffer from symptoms of AjD or post-traumatic stress in the aftermath of the event (Kilpatrick et al., 1987; Kunst et al., 2013; Maercker et al., 2012; Mol et al., 2005), it is likely that they experience a particular symptom pattern that is different from other stressed groups. For instance, fear of future victimization and a decreased sense of safety in their home play a dominating role in the stress response (Caballero et al., 2000; Derrer & Jann, 2013). On the other hand, depressive symptoms, as are for example documented after a romantic break-up (e.g. Mearns, 1991), have not been explicitly mentioned in the burglary literature. It is important to investigate whether the choice of a different AjD population yields other results with regard to the effectiveness of the manual.

The present study on burglary victims refers to a sample that primarily consisted of female participants (89%). In such a case the generalizability of the results to the male population is limited. It should be interesting to address the question of how such a gender bias develops. The selective response of females to our call for participation in the study could be a characteristic of the burglary population in particular or be related to the topic of bibliotherapy in general. A bias towards female participants was observed in the majority of book-based self-help studies (e.g. Febbraro et al., 1999; Mead et al., 2005; Nordin et al., 2010), though to a lesser extent of around 75%. Furthermore, it is possible that male victims of domestic burglary are more reluctant to admit their burglary-related anxieties than female victims, which would be consistent with known gender stereotypes (e.g. Basow, 2001). On the other hand, women have been reported to experience more fear of victimization (Schafer, Huebner, & Bynum, 2006) and higher

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levels of psychopathology after burglary (Beaton et al., 2000) and might therefore feel a greater need for support after the incident. Future research should, however, investigate whether a self-help manual appeals to the male population affected by different stressful life events. Future research could further evaluate whether it is feasible to appeal to male participants if online self-help instead of book-based self-help is provided. One could speculate that fewer gender-stereotypes are connected to this contemporary, technology-based form of self-help.

A pilot e-version of the self-help manual used in study 2 has been developed and is being evaluated in a feasibility study with individuals from the general population (Moser, 2015). Future research on the effectiveness of the online intervention is being planned. This online intervention may also be able to address the issue of higher dropout rates in the current study among those individuals with lower education. It is possible that they would prefer the online-setting to written self-help. As it was argued in the field of traditional face-to-face psychotherapy research (e.g. Norcross & Wampold, 2011), the question of what works for whom should be addressed in future self-help literature.

The present evaluation was conducted with a version of the manual that was adjusted to the context of psychological stress after burglary. The advantage of the contextualized form is its appeal on a personal level to the population addressed. In order to make the intervention accessible to a wider readership, it will be necessary to decontextualize the bibliotherapy manual as well as the online version in the future. Consequently, additional studies will have to determine the effectiveness of the decontextualized forms separately. One advantage of e-health interventions over printed media is that they can be more easily adjusted to different contexts. The technical feasibility of automatically personalizing the content of the e-intervention to different stressful life events should be examined.

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Finally, beyond evaluating the self-help manual for AjD, it seems important that the population of burglary victims receives attention from the research community. Whereas studies typically focus on crimes against the person such as sexual assault or violent crime, there is little research on the consequences of property crimes such as burglary. This argument is strengthened by the considerable media interest that study 2 attracted. In the course of the recruitment process the project had been reported in numerous newspaper articles, radio interviews and a television contribution on the national news. A lack of information on the psychological consequences of domestic burglary seems apparent.

The few available studies and the results of manuscript 2 show that a part of burglary victims experiences clinically significant symptoms of AjD. Notably, most of the available studies investigate the psychological impact of burglary in terms of PTSD symptoms (e.g. Boudreaux, Kilpatrick, Resnick, Best, & Saunders, 1998; Kilpatrick et al., 1987; Kunst et al., 2013). As in most cases the victims are out of home at the time of the event, the experience cannot be classified as traumatic. Future studies should consider AjD symptomatology as an outcome variable in studies on the psychological impact of burglary.

3.2.4 Clinical implications

The following sections intend to highlight several clinical implications connected to the development of the self-help manual and the results of study 2. As previously outlined, very few disorder-specific interventions have been developed for AjD (Casey & Bailey, 2011; O'Connor & Cartwright, 2012; Reschke & Teichmann, 2008). For this lack of empirically supported treatments it has been argued to apply disorder-unspecific interventions such as ACT in AjD patients (Wiggs & Drake, 2015). However, a different approach was chosen in this PhD project that produced a first disorder-specific self-help manual for AjD. On the most general level, this project demonstrates the feasibility of developing disorder-specific interventions that aim to reduce positively defined symptoms of AjD when the explicit stress response syndrome

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model for AjD (Maercker et al., 2007) is applied. This finding may encourage clinicians and researchers to proceed likewise in the face-to-face context.

An important finding of study 2 with practical relevance is the fact that a low-threshold intervention without therapist support can foster adjustment to stressful life events. This bears implications with regard to the usage of self-help in mental health care, as such interventions are ever more commonly used in models of stepped care. The primary aim of stepped care is to overcome treatment barriers that include limited availability of trained therapists, stigma, cost, and logistical barriers (Sareen et al., 2007; Thompson et al., 2004) and to make mental health services more accessible and efficient. Additionally, stepped care aims at bridging the sometimes considerable waiting times before face-to-face psychotherapy can be started (Bower & Gilbody, 2005). In stepped care models, the treatment often begins with self-help interventions that demand little therapist time and are convenient for patients. Thereafter, progress is carefully monitored and if needed, the patient transits into a more intensive care setting such as face-to-face interventions (Salloum et al., 2014). For several mental health conditions, stepped care approaches are being developed: depression (Franx, Oud, de Lange, Wensing, & Grol, 2012; Gureje, Oladeji, Araya, & Montgomery, 2015), obsessive-compulsive disorder (Tolin, Diefenbach, & Gilliam, 2011), anxiety disorders (van der Leeden et al., 2011) or traumatized young children (Salloum et al., 2014). However, to date no stepped care intervention was identified in the literature that addresses patients suffering from AjD. As AjD is a very common disorder and if treated in individual therapy places a large economic burden on the health care system it seems high time to consider implementing a respective stepped care approach.

The sample of study 2 consisted not only of participants with clinically significant AjD but also of individuals who showed a subclinical presentation of the disorder. Our results imply that self-help can be an effective intervention even in this clientele. These are individuals that suffer from a specific stress event but not to an extent that would qualify them for psychotherapy.

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Offering a cost-efficient self-help intervention that requires no therapist contact could be a practical approach to supporting such clients, and moreover, to prevent the disorder from taking a chronic course.

Even though the results of study 2 do not include an analysis of the effectiveness of individual exercises, the approach of this manual to use exercises from PTSD therapy in AjD treatment seems to be valid, as the significant interaction effects with regard to preoccupations and symptoms of post-traumatic stress imply. These results further strengthen earlier suggestions by Maercker (2009) and Cvetek (2008) that suggest applying PTSD interventions for AjD patients which may be informative to clinicians working in a face-to-face psychotherapy setting.

Several outcome measures such as the depression, anxiety, and stress scales did not change in a statistically significant manner when interaction analyses of the two groups were conducted. Nevertheless, the results show that no increase in symptoms resulted from the intervention. This is considered an important finding as other early interventions that were intended to prevent chronic stress symptoms produced mixed effects. This was the case for psychological debriefing where the control condition often yielded better results than the debriefing interventions or even had a negative impact on mental health (Rose, Bisson, & Wessely, 2003; van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002). In our piloting study on using a self-help manual in a population showing symptoms of AjD, no negative impact was discovered and consequently, the distribution of the manual seems legitimate.

Last but not least, this project shows that burglary victims are a group of victims that may experience meaningful psychopathological symptoms that cause a decrease in quality of life and functioning. However, as in most cases no physical contact with the intruder takes place, the experience does not qualify as traumatic. Burglary victims consequently have no claim to be supported by victim's aid organizations. Providing a low-threshold intervention specifically

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aimed at this clientele may increase their mental condition even due to non-specific treatment effects. Showing an interest in their condition and acknowledging them as victims may have a positive impact on mental health (c.f. Maercker & Müller, 2004). The distribution of the self-help manual in the contextualized form for burglary victims is therefore recommended. Possible distributors are the police or insurance companies as they have contact with the largest part of burglary victims.

3.3 A short outlook on SOC-R and adjustment disorder

Despite the overarching topic of stress response disorders, the two projects of this dissertation were conducted largely unconnected from each other. Even though it was not among the aims of the current work, it could be informative to combine the two areas of research in the future. The following section provides an outlook on promising ways of researching the intrapersonal resource of SOC-R in the context of self-help interventions for AjD.

Research has shown that client factors play a role for treatment success when using self-help interventions (McKendree-Smith, Floyd, & Scogin, 2003). Even though such treatments are effective for various psychological problems, one of their special characteristics is the pronounced responsibility they place on the user. It has previously been noted in the literature that client factors such as higher self-efficacy were related to treatment success and satisfaction in a self-help program for depression. Furthermore, treatment satisfaction was associated with an internal locus of control (Mahalik & Kivlighan, 1988). Similarly, it may be assumed that people with high SOC-R would be more successful users of self-help interventions due to the abilities reflected in the components of manageability, reflection and balance. On the other hand, people with low SOC-R might be overstrained by the self-directedness of the task. Such differences in individual resources could explain why some prevention and intervention strategies are more successful for some individuals than for others.

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Furthermore, as described in chapter 3.1.3, the SOC-R questionnaire may be supportive in the process of identifying individuals with a higher need of receiving psychological support such as the self-help manual. In a stepped care model of mental health this could for example be useful after large scale critical events on a community level which are known to leave many individuals in a stressed state. Examples for such events may be mass dismissals of employees or natural disasters.

3.4 General conclusion

In the scope of this PhD project two instruments were developed and evaluated that add to the body of knowledge on stress response syndromes: a revised questionnaire measuring the intrapersonal resource of SOC and a self-help manual for AjD. Part of study 1, the literature research on SOC-A revealed on the one hand the distinct popularity of the concept, on the other hand also disclosed its psychometric shortcomings. This finding highlights that it is necessary to critically evaluate even well-established concepts in psychology. The first study evaluating a newly devised SOC-R Scale suggests that a valid and reliable measure was developed which captures the salutogenetic concept of SOC better than it was previously possible. The added value of this new scale is seen in the potential explanatory power for salutogenetic processes as well as in its value to inform therapeutic interventions. The second study of this thesis directs attention towards the academically neglected but very frequently used diagnosis of AjD. This project contributes towards the overdue bridging of the gap between research and clinical practice in the domain of AjD. For the first time, a low-threshold bibliotherapeutic intervention was developed and evaluated. The results of the study suggests that it is beneficial to intervene with clinical and subclinical AjD symptoms in a self-help context. Self-help treatments are a promising, cost-effective and practical approach to treating AjD symptoms and may in the future be included in stepped care models. Despite the fact that the two studies were developed and run

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independently of each other, fruitful combination of the two research areas of SOC-R and self-help intervention research may be the focus of future projects.

4 PUBLICATIONS

4.1 Manuscript 1: Development and evaluation of a revised Sense of Coherence questionnaire

By Rahel C. Bachem & Andreas Maercker

A similar version of this manuscript was accepted for publication on the 07.08.2015 in the European Journal of Psychological Assessment.

Abstract

The present study introduces a revised Sense of Coherence (SOC) Scale, a new conceptualization and operationalization of the resilience indicator SOC. It outlines the scale development and aims for testing its reliability, factor structure, and validity. Literature on Antonovsky's SOC (SOC-A) was critically reviewed to identify needs for improving the scale. The scale was investigated in two samples. Sample 1 consisted of 334 bereaved participants, sample 2 of 157 healthy controls. The revised SOC Scale, SOC-A, and theoretically relevant questionnaires were applied. Explorative and confirmatory factor analyses established a 3-factor structure in both samples. The revised SOC Scale showed significant but discriminative associations with related constructs, including self-efficacy, posttraumatic growth, and neuroticism. The revised measure was significantly associated with psychological health indicators, including persistent grief, depression, and anxiety, but not to the extent as the previous SOC-A. Stability over time was sufficient. The study provides psychometric support for the revised SOC conceptualization and scale. It has several advantages over the previous SOC-A scale (unique variance, distinct

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factor structure, stability). The scale could be used for clinical and health psychological testing or research into the growing field of studies on resilience over the lifespan.

Keywords: salutogenesis, resilience, psychometrics, self-report

Introduction

For a considerable period of time, health and clinical psychological research has focused on identifying risk factors and psychosocial stressors that negatively influence health or worsen the course of distress or disorder. During the past decades, however, substantial interest has been given to health-protective factors. With the increasing interest in stress-related disorders, which for the first time will constitute a separate category in ICD-11 (Maercker, Brewin, Bryant, Cloitre, Ommeren, et al., 2013), the question of how to measure protective factors will once again gain in importance. Antonovsky's concept of Sense of Coherence (SOC-A; Antonovsky, 1979) is a widely used indicator of psychological resilience or health maintenance and has been most often used in clinical and health psychology. The construct aims to explain why some individuals sustain health after highly stressful situations, whereas others develop pathologies. In the present study, a new conceptualization and operationalization of SOC is introduced and empirically evaluated. It originates from various shortcomings of the traditional SOC-A concept (e.g. Feldt, Metsapelto, et al., 2007; Frenz et al., 1993; Geyer, 1997), which will be addressed below.

The conceptual definition of the new, revised SOC is closely related to the lexical meaning of the quest for coherence, defined as the general ability to perceive life phenomena as connected to each other and to balance positive and negative appraisals of life experiences (Arciero & Guidano, 2000). The revised SOC Scale is seen as a meta-heuristic for comprehend-

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ing the human condition and the ways of integrating diverse life experiences. Thus, the construct relates to other meta-heuristics like wisdom (Baltes & Staudinger, 2000), meaning-making (Singer, 2004), or resilience (G. E. Richardson, 2002) which all cover superior abilities of procedural knowledge to achieve stabilization in life's vicissitudes. Wisdom has been defined as knowledge in important life matters centering around high moral standards, whereas the resilience concept covers abilities to overcome adversity, and meaning-making focuses on developing self-knowledge by crafting personal life stories. Furthermore, posttraumatic growth focuses on gains of knowledge and experience through adverse events (Tedeschi & Calhoun, 1996). In contrast, the revised concept of SOC is to a lesser degree related to self-knowledge and its development but rather captures the interconnectedness and recognition of good and evil facts with its graduations.

The new SOC definition differs from Antonovsky's (1979, p. 123) original nomological network of optimism and basic acceptance of life defined as a "way of seeing the world (...) as predictable and comprehensible, (...) of lawfulness". The new definition comprises a more neutral or fatalistic position towards predictability or comprehensibility of life or world events either being negatively or positively appraised. Thus, the revised SOC focuses on relatedness and ambiguity of human experiences.

SOC in its new or previous definition implies some predictions (Antonovsky, 1993), e.g., that individuals who have a strong SOC should be able to maintain psychological health even if confronted with highly stressful or traumatic life events. Furthermore, SOC is regarded as a primarily knowledge-based ability because it addresses cognitive appraisals and its concatenation to a mind map of Weltanschauung. SOC should not connote positive emotionality or even optimism because appraisals of life phenomena include both positive and negative assessments. Developmentally, SOC is assumed to evolve during childhood and adolescence and to

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generally sustain stability during the remaining lifespan. It is assumed to build a foundation for successful aging by providing integration for gains and losses in one's own life.

Criticism on Antonovsky's concept

Antonovsky's theoretical idea of founding a SOC concept based on "salutogenesis" (the human potential to retain or regain health after serious life stressors) was widely adopted in psychology and medicine and inspired a substantial amount of research in the field (Becker et al., 2010). However, the original SOC-A measurement and its psychometric properties received sparse but substantial critical reflection over the years with regard to its internal and external validity, stability, and utility. However, some reviews attested that SOC-A had satisfying properties (e.g. Eriksson & Lindström, 2005).

A problematic aspect of SOC-A concerns its factorial structure. The three theoretically derived SOC-A dimensions (controllability, manageability, and meaningfulness) could not be satisfyingly reproduced, neither in Antonovsky's original publication (1993) nor in the vast majority of factorial analyses. Most authors demonstrated one core factor (Antonovsky, 1993; Flannery & Flannery, 1990; Frenz et al., 1993; Gruszczynska, 2006), whereas others found two factors (Feldt, Lintula, et al., 2007; Hawley et al., 1992; Larsson & Kallenberg, 1999; Zimprich et al., 2006), three factors that only partially corresponded to Antonovsky's dimensions (Gana & Garnier, 2001; Sandell et al., 1998), or up to five factors (Dudek & Makowska, 1993). This concerned the 29-item version as well as the 13-item short version (Feldt, Lintula, et al., 2007; Gana & Garnier, 2001; Zimprich et al., 2006).

Concerning external validity, high correlations of $r = .80$ and above between SOC-A and other established psychological concepts led to the question if SOC-A is an independent construct or rather an inverse measure of other constructs (e.g. Geyer, 1997; Gruszczynska, 2006; Strümpfer et al., 1998). Associations of SOC-A with depression ranged between $r = -.50$

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and $-.75$ and with anxiety between $r = -.76$ or $-.85$ (Flannery & Flannery, 1990; Frenz et al., 1993; Gruszczyńska, 2006). Feldt, Metsapelto, et al. (2007) found correlations of $r = -.85$ with neuroticism and with dispositional optimism between $r = .60$ and $.66$ (Chamberlain et al., 1992; Ebert et al., 2002; Gruszczyńska, 2006). Self-efficacy was shown to correlate between $r = .52$ and $.74$ with SOC-A (Gruszczyńska, 2006; Li & Shiu, 2008; T. L. Smith & Meyers, 1997). It has been continuously argued that SOC-A may empirically capture the opposite of neuroticism and anxiety, namely “emotional stability” or general emotional health (Carmel & Bernstein, 1989; Frenz et al., 1993; Geyer, 1997; Gruszczyńska, 2006). A closer look at the items may illustrate SOC-A’s overlap with constructs including neuroticism and anxiety (“Most of the things you do in the future will most likely be completely fascinating/deadly boring”; “Doing the things you do every day is a source of deep pleasure and satisfaction/ pain and boredom”), or—on the contrary—with self-efficacy (“When you face a difficult problem, the choice of a solution is always confusing and hard to find/always completely clear”). In an attempt to develop a second measure of SOC-A, using the same construct definition but different items, correlations of a similar extent were found for related concepts (Schmidt-Rathjens et al., 1997). The confounding with emotional health is of special importance for clinicians and researchers intending to measure underlying salutogenetic processes rather than psychopathological status that is better captured via conventional measures of depression or anxiety.

Likewise, the claim of stability of SOC-A over the adult life-span (Antonovsky, 1987) remained controversial (Geyer, 1997). Few studies demonstrated this stability (C. G. Richardson, Ratner, & Zumbo, 2007), whereas others either found an increase with chronological age (e.g. Callahan & Pincus, 1995; Frenz et al., 1993; Larsson & Kallenberg, 1996) or interaction effects of SOC-A with life stressors (e.g. Caap-Ahlgren & Dehlin, 2004; Carmel & Bernstein, 1990; Feldt, Leskinen, Kinnunen, & Ruoppila, 2003; P. M. Smith et al., 2003;

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Volanen, Suominen, Lahelma, Koskenvuo, & Silventoinen, 2007) in which more stress was associated with decreased SOC-A.

Finally, the original SOC-A version was criticized because of its low pragmatic utility. One aspect concerns the unusual item formats with double anchor descriptions for ratings (e.g., “always confusing and hard to find vs. always completely clear”). Furthermore, some items are phrased as questions, and others are presented as incomplete sentences. The test lacked time-cost efficiency because Antonovsky (1993) suggested using a SOC-A total score and no sub scores (i.e., manageability, comprehensibility, meaningfulness).

Goal of scale development

The aim of the current investigation was to develop a revised SOC Scale that overcomes the previous shortcomings of SOC-A and to examine its psychometric properties for use in clinical and health psychology or research settings. The scale development is based on a new conceptual definition and was constructed from an independent item pool by elaborating the new definition with regard to the experience of major life stressors, such as the loss of loved ones (Sample 1). An additional non-bereaved population sample completed the investigation as the core components of the revised SOC are expected to be relevant even when coping with minor adversities and daily hassles. Selected relevant concepts (e.g., self-efficacy, post-traumatic growth, neuroticism) or pathological outcomes (e.g., depression, anxiety) were introduced to investigate the revised scale’s validity features.

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Method

Item generation

An extended panel of PhD and master level students as well as senior researchers newly formulated an independent item pool on theoretical grounds of the definition of SOC as perceiving life phenomena as connected to each other and to balance positive and negative appraisals of life experiences. Twenty-six items were generated and applied in both samples.

Data collection

Data in both samples were collected in pen-and-paper format or via online-survey hosted by SurveyMonkey.com. In the first sample, participants were recruited by grief counselors and entries in online bereavement forums. Data were collected in German language. Potential participants obtained information on the purpose and procedure of the study and, if they consented, completed the questionnaires. Criteria for inclusion were the loss of a significant other 6 to 60 months prior to measurement. A subset of the sample was contacted at two further times (4 weeks and 15 months later). The second sample was a healthy control sample recruited from the general population.

Participants

Sample 1: This sample of bereaved persons consisted of 334 participants who had experienced the loss of a close person 6 to 60 months prior to measurement ($M = 27.15$ months, $SD = 15.13$). The loss experience concerned one's own child (44.6%), partner (40.1%), sibling (11.4%) or a parent in participants younger than 30 years (3.9%). Most losses were sudden and unexpected (66.5%), whereas others were the results of long-term sickness (33.5%). The participants declared grief symptoms of moderate extent ($M = 50.83$, $SD = 14.51$; scale range = 20-100). The sample ranged in age between 17 and 92 years ($M = 43.73$, $SD = 14.24$) and was

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primarily female (87.4%). 44.3% of the participants completed at least 9 years of school or professional training, 21.3% a higher education entrance qualification and 34.4% held a degree.

Sample 2: The second sample included 157 participants recruited from the general population and had not experienced any specific stressful life event. The age ranged between 20 and 85 years ($M = 40.24$, $SD = 15.16$). The majority (63.1%) was female. About one quarter (26.8%) had completed at least 9 years of school or professional training, 27.4% held a higher education entrance qualification and 45.9% a degree. The majority of the participants were professionals (66.2%), others were students or professional trainees (11.5%), retired (10.8%), homemakers (4.5%), or unemployed (7.0%). The yearly income was representative for the general population as indicated by published comparison data.

Measures

Stressor or life event-related questions. Several items drawn from previous bereavement research (Langner & Maercker, 2005) collected information about the relationship with the deceased, cause of death, predictability of death, date of death, and the use of therapeutic support.

Prolonged grief symptoms. In the first sample, prolonged grief was assessed by questions based on the diagnostic criteria for persistent complex grief disorder proposed by the DSM-5 (Bryant, 2014) based on the Inventory of Complicated Grief (Prigerson et al., 2009). The 20 criteria were translated and rated on a 5-point Likert-scale. No study previously validated this DSM-5 criteria psychometrically. In the current study, examinations indicated good internal consistency ($\alpha = .91$) and high retest reliability over a four-week interval ($N = 60$; $r = .89$).

Brief Symptom Inventory (BSI; Derogatis, 1993). This scale measures subjective impairment through physical and psychological symptoms. In the present study only the anxiety

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scale was utilized. Measures of reliability are considered high, ranging between $\alpha = .78$ and $\alpha = .87$ (Boulet & Boss, 1991).

Short Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1995). The questionnaire enables a subjective evaluation of psychological, physical, social and functional competence and produces two separate scales of physical and mental health. Information from all 12 items is used to construct weighted sum scores for physical and mental health. The German translation showed satisfying internal consistency (physical health: $\alpha = .78 - .83$; mental health: $\alpha = .70 - .87$), high factorial and convergent validity (Bullinger et al., 2003).

Beck Depression Inventory (BDI-13; Beck, Rush, Shaw, & Emery, 1979). The BDI measures the intensity of depressive symptoms in clinical and non-clinical populations (Steer, Beck, & Garrison, 1986). Every item offers four possible answers that are rated from 0 to 3 in terms of intensity. It shows satisfying internal consistency of $\alpha = .80$ (Kammer, 1983).

Sense of Coherence Scale-A (SOC-13; Antonovsky, 1987). The 13 items measuring SOC-A were rated on a 7-point scale with heterogeneous anchor descriptions. Whereas internal consistency was satisfactory (.70 - .92) (Eriksson & Lindström, 2005), the factorial structure and divergent validity of the construct have been questioned (e.g. Geyer, 1997). Nevertheless, the SOC-13 was included to allow comparisons between the revised scale and SOC-A.

Post Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996). This scale has been designed to assess positive changes after experiencing a traumatic event. The scale can be interpreted in terms of a total sum score ($\alpha = .92$) or on the subscale level. In the present study, a 10-item short form with good psychometric properties was used (Cann et al., 2010).

Optimism/pessimism (LOR-R; Scheier, Carver, & Bridges, 1994). This 10-item questionnaire measures individual differences in optimistic thinking on a 5-point scale with two separate factors: optimism ($\alpha = .69$) and pessimism ($\alpha = .68$), which appear to be constructs that

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vary independently as indicated by relatively low internal consistency of the total scale ($\alpha = .59$). Consequently, the subscales, but not the total score, were interpreted in the present study.

General Self-Efficacy (SWE; Schwarzer & Jerusalem, 1995). The scale measures the general conviction that difficult situations in life can be mastered successfully by one's own means. The SWE is a 1-dimensional inventory consisting of 10 items. Sound psychometric properties were documented in various samples (Schwarzer, Mueller, & Greenglass, 1999).

Big Five Mini Markers (BFMM; Saucier, 1994). The measures the big five personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness. The scales consist of 8 adjectives each (e.g., "moody" for neuroticism, "helpful" for agreeableness). It showed adequate reliability and validity with an internal consistency of $\alpha = .72-.83$.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 22. There were less than 1% missing values for each instrument, and data in all but one questionnaire were missing completely at random (Little's MCAR test). Given its low amount of missings, values were replaced using the Expectation Maximization algorithm. To determine the latent factor structure of the new questionnaire, an exploratory parallel analysis (Horn, 1965) was conducted using the Rawpar program for SPSS (O'Connor, 2000).

To further evaluate the factor structure of the new scale derived from the exploratory factor analysis (EFA), a confirmatory factor analysis (CFA) was modeled. Different fit indices such as the Root-Mean-Square-Error-of-Approximation (RMSEA), the Standardized-Root-Mean-Square-Residual (SRMR), the comparative fit index (CFI) and the Tucker-Lewis index (TLI) were applied. The corresponding cut-off scores (Brown, 2006; Schweizer, 2010) for determining model fit are explained in Table 5.

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To test for convergent validity, bivariate Pearson's correlations between the revised SOC Scale and various measures of psychological health were evaluated.

Results

Exploratory factor analysis of item pool

Preliminary data analysis of the 26 initial items led to the exclusion of 3 items due to low internal consistencies (corrected item-scale-correlation $<.20$). For the remaining 23 items, parallel analysis of eigenvalues suggested a three-factor solution (first four Eigenvalues: 6.20, 1.36, 0.94, and 0.50). A maximum likelihood approach and direct Oblimin rotation were conducted for the EFA with 3 subscales. To further reduce the number of items and to achieve a clear factor structure, 10 more items were excluded from the item pool due to low loadings in the EFA ($<.30$), insufficient communalities ($<.20$) and low congruence in terms of content and meaning with other items of the respective subscales. Descriptive statistics for deleted items are presented in the electronic supplementary materials.

Exploratory factor analysis of final items

The final 13 items (see Appendix) were evaluated for skewness, kurtosis, bimodality, and floor and ceiling effects. Scores from only a few items were normally distributed, and most items showed at least a moderate extent of negative skewness. There was no evidence of bimodality or ceiling or floor effects, as all response options were utilized for all items in both samples (see Table 4).

The final latent factor model showed no cross loading items ($>.3$) and accounted for 41.85% of the cumulative variance in the model. Factor 1 accounted for 27.97%, factor 2 for 8.11%, and factor 3 for 5.8% of the total variance. Factor 1 represents a persons' ability to come to terms with difficult situations, and was therefore labeled "manageability". Factor 2 is reflec-

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tive in nature and includes items representing the ability to take different perspectives or understand connections and was therefore termed “reflection”. The underlying pattern of factor 3 represents meta-heuristics for balancing positive and negative experiences and feelings, and was labeled “balance”.

When conducting the three-factor EFA in sample 2, an almost identical item assignment to the factors appeared, in which 36.4% of the variance was accounted for. A difference between EFA in samples 1 and 2 is that in the healthy control sample, the factor reflection explained the largest proportion of variance (23.57%) whereas manageability (8.11%) and balance (6.14%) were weaker determinants. Intercorrelations of factors for both samples ranged between .26 and .40, indicating a small to moderate degree of subscale overlap.

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Table 4 SOC-R descriptive statistics after item reduction for 2 samples

	Subscale	Mean	SE	SD	Skewness	Kurtosis
Sample 1						
1	Manageability	3.50	.06	1.00	-.61	.13
6	Manageability	3.28	.06	1.00	-.35	-.30
7	Manageability	3.50	.05	.97	-.50	.02
8	Manageability	3.50	.05	.91	-.51	.10
9	Manageability	3.50	.05	.94	-.45	-.06
10	Reflection	4.04	.04	.79	-.81	1.21
11	Reflection	3.78	.05	.84	-.56	.34
12	Reflection	3.81	.05	.90	-.49	-.13
13	Reflection	3.85	.04	.78	-.42	.12
2	Balance	3.79	.08	1.44	-.26	-.72
3	Balance	3.30	.08	1.51	.13	-.89
4	Balance	4.01	.09	1.61	-.36	-1.03
5	Balance	3.72	.09	1.57	-.10	-1.02
Sample 2						
1	Manageability	3.80	.07	.83	-.65	.79
6	Manageability	3.48	.07	.92	-.45	-.15
7	Manageability	3.83	.07	.86	-.81	1.07
8	Manageability	3.86	.06	.77	-.60	.79
9	Manageability	3.69	.07	.93	-.32	-.50
10	Reflection	4.26	.06	.74	-.95	1.60
11	Reflection	4.02	.06	.80	-.50	.22
12	Reflection	4.17	.06	.76	-.73	.40
13	Reflection	4.03	.06	.78	-.61	.61
2	Balance	3.92	.09	1.12	-.97	.32
3	Balance	4.10	.08	1.02	-1.19	.82
4	Balance	3.64	.08	1.01	-.45	-.41
5	Balance	3.92	.07	.86	-.34	-.62

Note. Sample 1: $n = 334$; Sample 2: $n = 157$; Scale range: 1-5.

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CFA for construct validity

To find evidence for the three-dimensionality of the scale, a one-factor solution was modeled and compared to the hypothesized three-factor solution. All models terminated normally. The fit statistics for the two samples are presented in Table 5.

Table 5 *Fit indices for confirmatory factor analysis of SOC-R*

Model	χ^2	<i>df</i>	RMSEA	SRMR	CFI	TLI
Sample 1						
one-factor solution	374.80	65	.119	.084	.718	.662
three-factor solution	131.04	62	.058	.049	.937	.921
three-factor solution modified	113.96	61	.051	.045	.952	.938
Sample 2						
one-factor solution	184.03	65	.108	.088	.671	.605
three-factor solution	111.00	62	.071	.070	.864	.829
three-factor solution modified	105.96	61	.069	.068	.876	.841

Note. RMSEA = root-mean-square error of approximation; SRMR = standardized-root-mean-square-residual; CFI = comparative fit index; TLI = Tucker-Lewis index.

As expected, the single-factor solution provided poor model fit in both samples. The RMSEA did not fit the 90% confidence interval for sample 1 [.108, .131] and for sample 2 [.090, .127]. The three-factor solution produced better fit indices: 90% confidence interval [.044, .072] for sample 1 and [.049, .092] for sample 2. In sample 1, reasonable fit was demonstrated for most other indices, although by allowing residual correlations for two items of the factor balance, a significant gain in model fit was indicated, $\chi^2_{\text{diff}}(1) = 17.08, p < .001$. Closer inspection of the items (2. “Evil also has its place in the world.” and 3. “I know that I could suddenly experience something really horrible or shocking.”) led to the conclusion that both focus on the negative aspects of life describing acceptance of negative experiences. Because acceptance is a prerequisite for balancing the good and bad, they were considered part of bal-

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ance and the corresponding errors were connected. A four-factor solution resulted in the division of the subscale balance, producing two separate factors of two items each, which were rejected due to under-identification. No further modifications improved the model. In sample 2, however, the fit indices were more critical, as CFI and TLI were below .90 while RMSEA was within the acceptable range (Table 5).

Demographic variables analysis

Some gender-related differences in SOC-R were found on the subscale level but not the total score. In the bereaved sample, men had significantly higher values on manageability ($p < .05$), whereas in the population sample, women had significantly higher values on reflection ($p < .05$). No significant age-related differences were identified in either sample, and SOC-R did not differ with respect to education in sample 1. However, in sample 2, SOC-R was significantly higher for more educated people on the total scale value ($p < .01$) and on manageability ($p < .05$) and reflection ($p < .01$) but not balance ($p > .05$). Finally, SES did not significantly correlate with SOC-R.

Reliability analyses

Internal consistency was assessed by Cronbach's alpha coefficients (Cronbach, 1951). Satisfactory internal consistency ($\alpha = .81$) was found in sample 1 for the total score, with somewhat lower values on the subscale levels: manageability ($\alpha = .77$), reflection ($\alpha = .76$), and balance ($\alpha = .63$). In sample 2, the total scale alpha score was satisfactory ($\alpha = .75$) with lower subscale values of manageability ($\alpha = .71$), reflection ($\alpha = .64$), and balance ($\alpha = .57$). Stability over time was tested with a subset of sample 1 ($n = 60$) over four weeks and resulted in a high retest reliability coefficient of $r = .85$. As SOC-R is assumed to be stable across the lifespan, a longer retest interval of 15 months was examined and yielded a coefficient of $\alpha = .74$.

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Convergent and Discriminant Validity

SOC-R was expected to be negatively associated with grief (stress-related symptoms inventory), depression (BDI-13), anxiety (BSI anxiety) and positively associated with general mental health (SF-12). Discriminant validity was tested by correlations of SOC-R with optimism and pessimism (LOT-R), posttraumatic growth (PPR), self-efficacy (SWE), and neuroticism (BFFM-D). For sample 1, it was also tested whether the following factors influenced the magnitude of correlations between SOC-R and health outcomes: time since death, cause of death, relationship with the deceased, and predictability of death. The partial correlations were not found to differ significantly from bivariate correlations and are not reported. Correlations are shown in Table 6.

Table 6 Associations (Pearson's correlation) and descriptive statistics of SOC-R and related constructs. The results for sample 1 are presented in the first column, for sample 2 in the second column

Measures	SOC-R total	Manage- ability	Re- flection	Balance	SOC-A	M	SD	Scale Range
SOC-R total score								
Manageability	.83	.80				47.75	50.71	6.69 5.77 13-65
Reflection	.71	.65				17.28	18.67	3.48 2.93 5-25
Balance	.73	.77	.32	.28		15.49	16.47	2.52 2.14 4-20
SOC-A	.40	.37	.29	.13		14.99	15.58	2.75 2.65 4-20
Persistent grief	-.48	-.49	-.28	.06	.14 ¹	56.45	61.66	12.18 12.12 13-91
Depression	-.46	-.31 ¹	-.23	-.18	-.08	50.83		14.51 20-100
Anxiety	-.33	-.39	-.21	-.11	-.59	8.05	4.49	6.09 4.94 0-39
Mental health	.33	.25	.13	.15	.05	10.42		4.35 6-30
Physical health	.20	.11	.10	.02	.01	41.08	46.37	10.77 11.53 9-61
Optimism	.39	.20 ¹	.29	.12	-.01	49.28	52.38	9.14 7.30 19-64
Pessimism	.25	.28	.18	.02	.03	9.59	10.85	2.43 2.53 3-15
Self-efficacy	.52	.45	.37	.23	.54	10.31	11.03	2.59 2.35 3-15
Neuroticism	-.23	-.18	-.21	.01	-.58	28.21	29.52	4.62 3.88 10-40
Growth	.41	.39	.24	.28	.26	28.94	26.70	8.08 8.50 8-56
Extraversion	.22	.26	.17	.04	.31	37.68		10.51 10-60
Openness	.27	.25	.30	.06	.17	32.71		9.16 8-56
Agreeableness	.23	.22	.21	.08	.31	37.37		6.51 8-56
Conscientiousness	.22	.22	.22	.06	.33	44.95		7.14 8-56
						42.29	8.26	8-56

Note. Italicized correlations are not significant; otherwise, all correlations are significant $p < .05$; ¹ indicate significant differences $p < .05$ in correlation coefficients between sample 1 and sample 2, determined by Fisher's test for two independent correlations.

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In sample 1, correlations of the SOC-R total score were of moderate effect size, except for the bereavement symptoms (large effect) and neuroticism (small effect). Correlations were lower in sample 2, although still significant for all variables except physical health. The SOC-R total score showed the highest relationships with self-efficacy and the health outcomes of grief and depression. Evidence for discriminant validity was further demonstrated by small associations with variables such as extraversion, openness, agreeableness, or conscientiousness. Except for the self-efficacy scale, these associations were noticeably lower than it was the case for SOC-A.

At the subscale level, manageability and reflection showed similar convergent and discriminant association patterns. Manageability was particularly highly correlated with mental health and self-efficacy, whereas reflection was most closely related to self-efficacy. The factor balance showed particularly high associations with grief and posttraumatic growth but was related to a lesser degree with the other variables. As shown in Table 6, the SOC-A measure showed markedly high correlations with many study variables, including depression, anxiety, general mental health, and neuroticism.

Discussion

The purpose of this study was to develop a new concept and questionnaire measuring SOC by preserving Antonovsky's main idea and to examine validity and psychometric properties of this new instrument. Following but specifying Antonovsky, we assumed that SOC is a meta-heuristic for comprehending the human condition and the ways of integrating diverse experiences. Based on a closer reference to its core semantic meaning, the revised SOC was defined as the general ability to perceive life phenomena as connected to each other and to balance positive and negative appraisals of life experiences. Various methodological criticisms towards the original SOC by Antonovsky (1979) could be addressed and better solved.

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The reported findings on the new scale provide initial support of its assumed underlying factor structure, the reliability of the concept and the convergent and discriminant validity. The empirical evaluation using two samples indicated that the new 13-item questionnaire covers the revised definition well.

With regard to internal validity and the scales' utility, our results suggest three subscales (manageability, reflection, balance) which were cross-validated in two samples. The original SOC-A in most previous analyses revealed a one-factor structure that contradicted the presumed three-factor structure of comprehensibility, manageability, and meaningfulness and showed low utility because only one construct (factor) was measured by the original 29 items. Antonovsky's SOC-A and the revised SOC Scale are consistent in one factor label, manageability, but differ in the remaining factors. The revised SOC Scale's reflection and balance subscales refer to our narrower definition of SOC. The theoretical notions of comprehensibility and meaningfulness are mostly preserved in the revised scale, as a closer look at the items reveals. The much-criticized problems with unusual item formats with double anchor descriptions were solved by a more conventional format.

Notably, the fit indices in the CFA showed acceptable fit for the bereaved sample compared to the control sample which was unsatisfactory for CFI and TLI but acceptable for RMSEA. It might be argued that SOC is a construct which is more relevant when a person is faced with critical life events but less pronounced in everyday life situations. This matter could be responsible for less distinguishable subscales in the healthy sample.

A closer look at the revised SOC factor structure reveals the following: In the bereaved sample, the factor manageability explains the largest proportion of variance, whereas in the control sample, reflection constitutes the first factor. This may indicate that a construct such as SOC is not completely context-free or task-unspecific. The bereavement sample faces the task

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of coping with loss, which seems to resemble a management of hardship task (e.g., “One can always find a way to cope with painful things in life”, item 7). As the control sample is not acutely required to manage a specific difficulty, the predominance of the meta-cognitive factor reflection (e.g., “It is important for me to maintain a good overview of situations”, item 10) appears explicable, as it is relevant in everyday life situations.

Regarding reliability, the findings suggest that the revised SOC Scale is internally consistent and stable intervals of four weeks and 15 months. The internal consistency was high or satisfactory in both samples. For the subscales, the lower levels of α -coefficients are likely related to the small number of items, which is known to produce lower alpha coefficients. However, the balance scale should be tested in further samples to determine its consistency. The revised construct is assumed to generally sustain stability across the lifespan and only fluctuate if major life events occur. The findings of this study provide initial support for this assumption with sufficient test-retest reliability across 15 months.

The associations of the revised SOC and demographic variables are favorable. In accordance with theoretical assumptions, the revised SOC was not found to be associated with age. The conventional SOC-A was repeatedly shown to be confounded with age (e.g. Frenz et al., 1993; Larsson & Kallenberg, 1996). Genders did not differ in the revised SOC total score, but bereaved males scored higher on manageability than females, which may explain why men use formal support resources such as grief counseling or psychotherapy less often (Kersting, 2007). Women scored higher on reflection, which may be related to other known gender differences, such as empathy or rumination (e.g. Johnson, 2013). Level of education showed positive relationships with reflection and manageability only in the control group, which implies that in the face of adversity, the advantage of education disappears. No systematic relationship was found with income, indicating that the revised measure is independent of economic resources.

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With regard to convergent and discriminant validity, the revised scale was moderately to strongly correlated with measures of mental health, such as prolonged grief symptoms, depression, anxiety, and with theoretically related concepts of optimism, posttraumatic growth or self-efficacy. These medium effect sizes are considered evidence that the revised concept covers psychological adjustment but is also distinguishable from related concepts. The correlation with neuroticism was small and indicates a limited overlap between the constructs. A major critical argument against the previous SOC-A measure was that it blended with affectivity. In the revised SOC Scale, this factor is successfully remediated. The revised SOC Scale presents a measurement instrument that is conceptually and empirically distinct from measures of psychopathological status, which is important for researchers and clinicians interested in salutogenetic processes.

The revised SOC is assumed to cover a concept that helps people to address not only extremely stressful experiences but also stressors that naturally occur. This assumption was considered in the current study by including a healthy control sample. As hypothesized, associations were of lesser magnitude in the control sample, and they were markedly lower than SOC-A correlations. As SOC-A was repeatedly criticized for its confounding with depression, anxiety, general mental health, and neuroticism (e.g. Gruszczynska, 2006), this finding was an intended outcome. The scale could be used for identifying persons at risk for developing psychological disorders after experiencing stressful life events.

The study has several limitations. First, a convenience sample with participants was recruited via counselors and self-help forums. This resulted in a greater proportion of female than male participants in the bereaved sample and in the control sample. Future research should replicate our findings in samples with more equal gender distributions. Second, applying the scale to samples suffering from a variety of life events in addition to bereavement would pro-

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vide stronger evidence for the generalizability of the results to other groups of vulnerable individuals. Special attention should be given to a replication of the factor structure which was acceptable in the bereaved sample but unsatisfactory in the control sample that did not experience a stressful life event. Similarly, applying it in diverse geographical and cultural areas is needed and would give insight into potential intercultural differences in SOC. Third, the study fully relies on self-report questionnaires. Future studies should include structured interviews in order to rule out the possibility of method biases. Finally, future studies should try to discern the long-term trajectory of reports to determine how critical or traumatic life events influence SOC. We conclude with the hope that for clinical and research purposes in the areas of traumatic stress or lifespan developmental studies the new scale will fill an existing gap.

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4.2 Manuscript 2: Self-help interventions for adjustment disorder: A randomized waiting-list controlled study

By Rahel C. Bachem & Andreas Maercker

A similar version of this manuscript will be resubmitted to the Journal of Clinical Psychology and Psychotherapy.

Abstract

Background: Adjustment disorders (AjD) are among the most frequent mental disorders yet often remain untreated. Low-threshold bibliotherapeutic interventions represent a promising potential treatment. This study investigated the effectiveness of a self-help manual specifically directed at alleviating AjD symptoms in a homogenous sample of burglary victims.

Methods: Participants with clinical or subclinical AjD symptoms following experience of burglary were randomized to an intervention group ($n = 30$) or waiting-list control group ($n = 24$). The new explicit stress response syndrome model for diagnosing AjD was applied. Participants received no therapist support. Assessments took place at baseline, after the one-month intervention and at three-month follow-up.

Results: Group by time interactions indicated that the intervention group showed more improvement in AjD symptoms of preoccupation and in post-traumatic stress symptoms. Post-intervention between-group effect sizes ranged from Cohen's $d = .17$ to $.67$ and the proportion of participants showing reliable change was consistently higher in the intervention group than

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in the control group. Engagement with the self-help manual was high: 87% of participants had worked through at least half the manual.

Discussion: This is the first published RCT of a bibliotherapeutic self-help intervention for AjD. The findings provide evidence that a low-threshold self-help intervention without therapist contact is a feasible and effective treatment for symptoms of AjD.

Keywords: self-guided help, self-help, bibliotherapy, adjustment disorders, randomized controlled trial (RCT)

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Introduction

This paper presents a new, low-threshold intervention for adjustment disorder (AjD) in the form of a self-help manual. AjD is amongst the most frequently diagnosed mental health problems in clinical practice, with prevalence up to 30% in psychiatric and liaison samples (Casey, 2014; Evans et al., 2013). AjD is a transient maladaptive or pathological reaction to an identifiable stressor which emerges within three months of the stress event (Diagnostic and Statistical Manual of Mental Disorders, 5th ed., DSM-5, American Psychiatric Association, 2013; International Classification of Disease, ICD-10, World Health Organization, 1996). Potential triggers for AjD include divorce, illness, disability, socioeconomic difficulties, interpersonal conflict and other stressful events. Triggers are acute events or chronic life circumstances that are stressful yet not classified as traumatic. To date there has been little basic research into the nature of AjD or interventions which target it. This lack of empirical investigation is probably connected with the vagueness of previous diagnostic criteria and its reputation as a subclinical disorder (e.g. Strain & Diefenbacher, 2008).

However, recent developments in the definition and diagnosis of AjD mean that the condition is likely to attract more attention. In DSM-5 AjD is, for the first time, categorized as a stress-related disorder (Strain & Friedman, 2011) and ICD-11 defines specific symptom criteria for the first time (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013). The beta version of ICD-11 distinguishes two core groups of AjD symptoms: intrusive preoccupations with the stressor and failure to adapt. The existence of specific symptom criteria enables researchers and practitioners to investigate therapeutic strategies in a target-oriented manner. The proposed ICD-11 disorder model has been investigated in various recent studies on diverse populations (see Maercker, Bachem, & Simmen-Janevska, 2015). Burglary is an example index event for AjD as burglary victims feel their privacy has been seriously violated and may report

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symptoms including anxiety, anger, hostility and sadness (e.g., Beaton et al., 2000). Burglary victims also frequently report attempts to avoid thoughts and feelings related to the event and concerns about reoccurrence, accompanied by symptoms of hypervigilance (Caballero et al., 2000).

AjD becomes chronic in a fifth of cases, which results in a substantial decline in quality of life and can lead to heightened suicide risk if the condition remains untreated (Gradus et al., 2010; Kryzhanovskaya & Canterbury, 2001). At present there are only a limited number of evidence-based treatments specifically targeting AjD symptoms (Maercker, Bachem, & Simmen-Janevska, 2015). Less than a third of people suffering from a mental disorder have access to traditional, face-to-face therapy (Kessler et al., 2005; P. S. Wang et al., 2005) and this figure is even lower for AjD; a treatment rate of 10% in a sample of elderly adults has been reported (Maercker et al., 2008). Barriers to treatment include limited availability of mental health services, lack of patients' resources (money and time) and fear of stigmatization (Sareen et al., 2007).

Self-help interventions, such as bibliotherapy or internet-based interventions, are a promising alternative to traditional treatments and have the potential to overcome barriers and improve the availability of effective psychological treatments. They vary in the degree of therapist involvement and the amount of patient initiative required. The traditional and most common form of self-help is the unguided intervention due to its flexible application. In addition, self-guided forms of self-help such as bibliotherapy are considered the best way to reduce treatment barriers (Mains & Scogin, 2003). Growing evidence suggests that self-help interventions with minimal or no therapist contact can be an effective treatment for depression (Cuijpers et al., 2011), anxiety disorders (Lewis et al., 2012; Menchola et al., 2007), insomnia (van Straten & Cuijpers, 2009) and tinnitus (Nyenhuis et al., 2013). Most meta-analyses of self-

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help treatments which are not therapist-supported have reported small to medium effect sizes ($d = .20 - .76$; Cuijpers et al., 2011; Gould & Clum, 1993; Spek et al., 2007).

Despite this evidence of the clinical potential of such interventions there have been few studies investigating use of self-help interventions to treat stress-related disorders such as post-traumatic stress disorder (PTSD) and AjD and those which have been carried out have produced mixed results. Some internet-based self-help interventions were effective in reducing symptoms of post-traumatic stress (Hirai & Clum, 2005; Z. Wang et al., 2013), but a self-help booklet was not effective in reducing post-traumatic stress symptoms, although participants rated it to be a helpful intervention (Ehlers et al., 2003). Other authors have described the potential of self-administered expressive writing as a means of coping with stress and trauma (Pennebaker & Chung, 2007; Rasmussen & Tømm, 1992; Smyth & Helm, 2003).

Owing to the previously ill-defined status of AjD there are no studies available on the use of self-help interventions that are specifically directed at alleviating AjD symptoms. However, several of the features of AjD make it a promising target for self-help treatments, namely the very high prevalence, the fact that it is considered a mild disorder, which is often transient in nature i.e. it has a high rate of spontaneous remission. These features also mean that the development of cost-effective low-threshold interventions would be beneficial. Self-help interventions also have great potential as early interventions in subclinical and threshold cases; used in this way they might reduce the risk that these individuals will go on to develop clinically significant symptoms (Jorm & Griffiths, 2006) and may therefore be valuable as secondary prevention strategies. As Carta, Balestrieri, Murru, and Hardoy (2009) pointed out, research into prevention is particularly important in the case of AjD.

Investing in the development of accessible, evidence-based, cost-effective interventions such as bibliotherapy is in keeping with recent efforts to establish stepped-care models in mental

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health services (e.g. C. Williams & Martinez, 2008). The promising evidence on the effectiveness of self-help treatments, together with recent efforts to refine the classification and criteria for AjD led to the development of a new, stand-alone self-help intervention based on cognitive-behavioral principles.

The purpose of this study was to evaluate the effectiveness of this self-help manual by comparing recovery in an intervention group and a waiting-list control group of individuals with symptoms of AjD. We hypothesized that the intervention group would show a greater reduction in AjD symptoms and other stress-related impairments (PTSD, depression, anxiety, and stress) than the control group, although it was anticipated that there would be improvement in the control group as a result of spontaneous remission. We also evaluated satisfaction with the manual and adherence to the treatment it described.

Method

Design

The study was a randomized controlled trial; an intervention group working with a self-help manual but without therapist contact was compared to a waiting-list control group. Data were collected from all participants prior to randomization (T1) and after four weeks (T2). Follow-up data (T3) were only available for the intervention group, as the control group received the manual after data collection at T2.

Ethical approval was obtained from the University of Zurich ethics review board and all participants provided informed consent. An *a priori* power calculation using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) with a significance threshold of $p = .05$ indicated that a sample size of 54 would be needed to detect intervention effects similar to those found in

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previous studies of bibliotherapeutic self-help interventions for other mental health problems (Cuijpers et al., 2011; Gould & Clum, 1993; Lewis et al., 2012; Menchola et al., 2007).

Participants

In this study we investigated AjD triggered by domestic burglary. Participants were recruited via a series of media reports and several police units who distributed information about the study. Participants were recruited by internet and by telephone. The CONSORT-adequate participant flow diagram is shown in Figure 2. One hundred and three of the 136 persons who expressed an interest in participation and received information eventually gave written informed consent and were randomized to one of the groups. All communication was via postal mail and data were collected in pen-and-paper format. Randomization by a true random number service (<http://www.random.org>) resulted in allocation of 54 participants to the intervention group and 49 to the control group. Inclusion criteria for the subsequent treatment were: (a) the burglary must have taken place between two weeks and two years prior to the baseline assessment and (b) participants were at least 18 years of age. Attendance at psychotherapy during the study period was an exclusion criterion. Because the intervention is intended to have a low entry threshold, as bibliotherapy has potential as a secondary prevention strategy, and because this was the first trial of a self-help intervention specifically designed to treat AjD we used a low symptom threshold; individuals with subclinical symptoms as well as those with full AjD according to a previously established diagnostic algorithm by Glaesmer et al. (2015) were eligible. The threshold for inclusion was a high score on either the core or associated symptom groups (see below for details). Comorbid mental disorders were not an exclusion criterion. Selection criteria were applied after randomization and this reduced the two groups from $n = 54$ to 29 (intervention) and $n = 49$ to 24 (control; see Fig. 2).

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The total sample consisted of 53 participants, ranging in age from 19 to 80 years ($M = 46.46$, $SD = 16.2$) and the majority was female (88.7%) (Table 7). There were baseline differences between the intervention and control groups in terms of gender ($\chi^2 = 5.60$; $p = .06$) and time since burglary ($t = 1.95$, $p = .04$) and a marginal difference in age ($t = 1.92$, $p = .06$), but not level of education or total number of stressful life events during the previous two years. The prevalence of full AjD (Glaesmer et al., 2015) was also similar in the two groups ($\chi^2 = 0.01$, $p = .93$). The most frequently reported stress events besides burglary were too much or too little work ($n = 20$) and death of a significant other ($n = 19$). There were no baseline differences in any of the dependent variables ($t(51)$ between -0.79 and 0.64, all ns).

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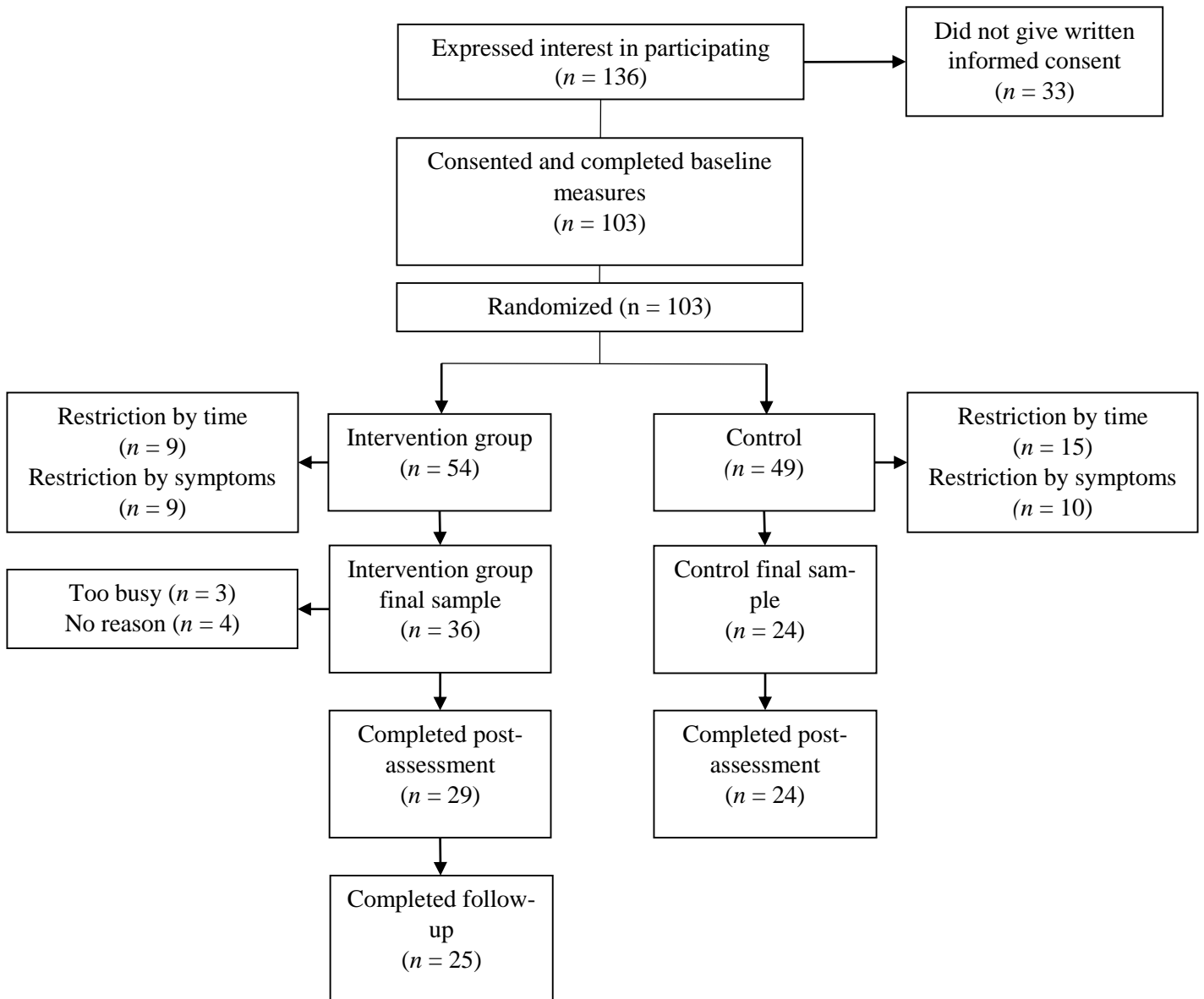


Figure 2. CONSORT diagram of the participant flow in study 2.

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Table 7 *Demographic characteristics of participants*

	Intervention group <i>n</i> = 29	Control group <i>n</i> = 24	Total sample <i>n</i> = 53	Between- group comparison
Gender <i>n</i> (%)				
Female	23 (79.3)	24 (100.0)	47 (88.7)	$\chi^2 = 5.60$
Male	6 (20.7)		6 (11.3)	$p = .02$
Education <i>n</i> (%)				
Up to 9 years	11 (37.9)	11 (45.8)	22 (41.5)	$U = 309.50$
Up to 14 years	8 (27.6)	7 (29.2)	15 (28.3)	$z = -1.734$
Degree (BA, MA)	10 (34.5)	6 (25.0)	16 (30.2)	$p = .46$
Age mean (<i>SD</i>)	50.36 (15.7)	41.92 (15.9)	46.46 (16.2)	$t = 1.92$ $p = .06$
AjD diagnosis <i>n</i> (%)				
Yes	10 (34.5)	8 (33.3)	18 (34.0)	$\chi^2 = 0.01$
No	19 (65.5)	16 (66.7)	35 (66.0)	$p = .93$
Total number of stressful events mean (<i>SD</i>)	2.72 (1.7)	2.46 (2.00)	2.60 (1.8)	$t = 0.53$ $p = .60$
Weeks since event mean (<i>SD</i>)	25.15 (27.8)	13.16 (12.6)	19.72 (22.9)	$t = 1.95$ $p = .04$

Note. AjD = Adjustment disorder.

Intervention

The intervention provided was a bibliotherapeutic self-help manual based on the principles of cognitive-behavioral therapy (CBT) (Bachem & Maercker, 2013). The manual integrates a variety of approaches validated as treatments for PTSD, anxiety disorders or depression; the selection focuses on measures which are intended to target the main symptoms of AjD, namely preoccupations (e.g. constant rumination, excessive worry about the stressor) and failure to adapt (e.g. sleep disturbance, difficulties concentrating, loss of interest in previously enjoyable activities). The manual consists of three parts. Parts one and two are primarily psychoeducational as they contain a screening test for AjD, information on the causes and symptoms of AjD and a checklist for evaluating whether face-to-face contact with a mental health professional is necessary. Part three constitutes the main body of the manual which is

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organized into four chapters describing various CBT exercises: (1) *Sense of self*: understanding one's personal stress response. (2) *Coping*: learning strategies for the management of ruminations and anxieties. (3) *Activation*: carrying out exercises that evoke positive emotions and activate personal resources. (4) *Recovery*: finding a balance between activity and relaxation.

Measures

Adjustment Disorder-New Module (ADNM-20; Einsle et al., 2010). The ADNM-20 measures symptoms of AjD according to the diagnostic model developed by Maercker et al. (2007) and the proposed ICD-11 description of AjD (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013), which conceptualizes AjD as a stress response syndrome. First, respondents report their experience of six types of acute stress event (e.g. divorce, death of a family member) and ten types of persistent stress (conflict at work, serious illness) over the previous two years. Second, symptoms are rated on a four-point scale ranging from 1 (never) to 4 (often). The original questionnaire was shortened from 29 to 20 items on the basis of factor analytic research (Einsle et al., 2010; Maercker et al., 2007). The scale measures two core groups of AjD symptoms, "preoccupations" (4 items) and "failure to adapt" (4 items) and associated features, avoidance (4 items), depressive mood (3 items), anxiety (2 items) and impulse disturbance (3 items). Total ADNM score (range: 20-80) is the sum of scores for the two groups of core symptoms and the associated features. The subscales have shown good internal consistencies ($\alpha = .71$ to $\alpha = .90$) and satisfactory test-retest reliability over a six-week interval ($r_{tt} = .61$ for preoccupations and $r_{tt} = .84$ for failure to adapt (Einsle et al., 2010).

AjD was diagnosed if the participants scored ≥ 3 on at least one item and ≥ 2 on at least two items of both groups of core symptoms and rated impairment ("The symptoms cause clinically significant impairment in social, occupational, or other important areas of

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functioning”) ≥ 3 (Glaesmer et al., 2015). Subsyndromal AjD was diagnosed if at least three items in both groups of core symptoms were rated ≥ 2 or all items in an associated features cluster were rated ≥ 2 .

Post-traumatic Stress Symptoms (PTSD-ICD-11). This self-report scale assesses symptoms of PTSD according to the ICD-11 diagnostic model (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013) and has been used in an international study (Stein et al., 2014). Seven items relating to experience of PTSD symptoms over the past month are rated on a four-point scale ranging from 1 (‘never’ or ‘up to once a month’) to 4 (‘five times a week’ or ‘almost always’). Symptom severity is determined via sum score. Internal consistency in the present study was good ($\alpha = .76$).

Depression Anxiety and Stress Scale – Short Form (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 measures negative emotional states (depression, anxiety, and stress; seven items per scale). Items refer to the past week and are rated from 0 (never) to 3 (most of the time). In a non-clinical sample the total score had high internal consistency ($\alpha = .88$), as did the various subscales: depression ($\alpha = .82$), anxiety ($\alpha = .90$) and stress ($\alpha = .93$); convergent and discriminant validity were satisfactory (Henry & Crawford, 2005).

Client Satisfaction Questionnaire (CSQ-8; Attkisson & Zwick, 1982). This is a global measure of patient satisfaction consisting of eight items which are rated on a four-point scale using various response categories. According to Hannöver, Dogs, and Kordy (2000) scores above 24 indicate satisfaction with the treatment.

Data analysis

Data were analyzed using IBM SPSS Statistics version 22 for Windows. Missing data were imputed using the Expectation Maximization algorithm on subscale level. Completer analysis was chosen over intent-to-treat analysis as we anticipated improvements in control

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participants owing to the presumed transient nature of AjD. Applying a last-value-carried-forward technique would probably result in underestimation of intervention effects. Baseline differences in demographic characteristics and outcome measures (ADNM, DASS-21, PTSD symptoms) were assessed using independent sample *t*-tests in the case of continuous variables, Pearson's chi-square for categorical variables and the Mann-Whitney-U test for nominal and non-normally distributed variables. The primary outcomes of interest were group (2) x time (2) interactions, controlling for the unequal distribution of gender and age across the groups. All participants who completed the study were included in an analysis of covariance (ANCOVA). Type III sum of squares was used to control for the possible confounding effects of variance in gender and age. Post-intervention between-group effect sizes were estimated using Cohen's *d*. Finally, reliable change was calculated using the Reliable Change Index (RCI; Jacobson and Truax (1991), which indicates the percentage of individuals in a group who show greater change than could be produced as a result of measurement error. Only participants who exceeded cut-off scores for RCI thresholds at pre-treatment were included in this analysis, as only these participants had a chance to significantly improve at the T2 assessment.

Results

Adjustment Disorder Symptoms

ANCOVA revealed a group x time interaction indicating that the intervention group showed a greater improvement in ADNM-preoccupations ($F(1,48) = 8.30, p = .006$) than the control group; interactions for ADNM-failure to adapt ($F(1,48) = 3.44, p = .07$) and ADNM-total score ($F(1,48) = 2.90, p = .09$) just failed to reach significance. Age and gender had a non-significant impact on the basis of type III sum of squares for all primary outcomes (Table 8). Post hoc tests showed significant post-intervention between-group differences on the ADNM-preoccupation scale only: ($t(51) = -2.45, d = .67, 95\% \text{ CI } -3.26 - -.32, p = .02$). Within-group

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t-tests indicated that both groups had lower ADNM-preoccupation scores at T2, but as the interaction indicates, the reduction was more pronounced in the intervention group ($t(28) = 6.12$; $d = 1.15$, 95% CI = 1.89 – 3.79, $p = < .001$) than the control group ($t(23) = 3.18$; $d = .38$ (95% CI = 0.37 – 1.72), $p = .004$). There were also reductions in symptoms of failure to adapt in both groups; the effect was larger in the intervention group ($t(28) = 4.35$; $d = .88$ (95% CI = 1.13 – 3.15), $p = < .001$) than the control group ($t(23) = 2.06$; $d = .38$ (95% CI = -0.00 – 1.92), $p = .050$). There was a similar pattern of change in total ADNM scores, the reduction in the intervention group ($t(28) = 5.00$; $d = .90$ (95% CI = 5.54 – 13.24), $p = < .001$) was larger than the reduction in the control group ($t(23) = 3.99$; $d = .37$ (95% CI = 2.52 – 7.95), $p = .001$).

A greater proportion of participants in the intervention group showed a reliable change in the ADNM-total score than in the control group (38% vs. 21%), and the same pattern was observed for the preoccupations (45% vs. 13%) and failure to adapt (36% vs. 29%) subscales. The proportion of participants meeting the AjD criteria at T2 (post-intervention) was smaller in the intervention group (10.3%) than in the control group (20.8%).

Table 8 Means, standard deviations, effect sizes and F tests before and after self-help intervention

	Intervention group $n = 29$				Control group $n = 24$		Time x sex	Time x age	d (Post-in- tervention between- group)		
	follow-up				Pre $m(sd)$	Post $m(sd)$	F Type III sums of squares	F Type III sums of squares			
	Pre $m(sd)$	Post $m(sd)$	$m(sd)$								
ADNM	Preoccupations	12.14 (2.53)	9.29 (2.41)	9.68 (2.39)	12.13 (2.61)	11.08 (2.92)	0.52	0.06	8.30	.01	.67
	Failure to adapt	9.02 (2.53)	6.88 (2.31)	7.36 (2.98)	8.75 (2.82)	7.79 (2.98)	0.00	0.48	3.44	.07	.34
	Total	49.53 (9.83)	40.14 (11.16)	42.25 (13.08)	48.09 (9.63)	42.85 (10.59)	0.87	0.12	2.90	.09	.25
PTSD	Total	14.84 (4.42)	11.28 (3.69)	11.87 (4.40)	15.75 (3.96)	13.63 (3.46)	0.06	2.37	5.63	.02	.66
DASS-21	Anxiety	5.18 (4.52)	2.76 (2.31)	2.84 (2.99)	4.46 (3.30)	3.29 (3.13)	1.68	0.15	3.42	.07	.19
	Depression	4.83 (4.07)	2.03 (2.12)	2.16 (3.14)	4.84 (4.21)	2.75 (3.55)	0.53	0.12	1.63	.31	.25
	Stress	7.75 (5.03)	4.48 (3.55)	4.08 (3.76)	7.82 (5.14)	5.13 (4.07)	1.32	0.33	0.61	.43	.17

Note. * $p < .05$, ** $p < .01$; ADNM: Adjustment Disorder - New Module (preoccupations and failure to adapt scales); PTSD: Post-traumatic Stress Disorder Scale; DASS-21: Depression, Anxiety, and Stress Scales (short form).

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Follow-up data was available for 25 (86.2%) of the participants in the intervention group (means and standard deviations in Table 8). There were no significant differences between outcome variables at the post-intervention and 3-months follow-up assessments ($t(24) = -0.05 - 0.45$, all ns), indicating that treatment effects were persistent.

Post-traumatic Stress Symptoms

ANCOVA for scores on the PTSD scale revealed a group x time interaction ($F(1,48) = 5.63$, $p = .02$) which reflected that the intervention group showed a greater reduction in symptoms between T1 and T2 than the control group. Post-hoc tests confirmed a between-group effect at T2, with fewer symptoms in the intervention group: ($t(51) = -2.37$, 95% CI = $-4.34 - -0.36$, $d = .66$, $p = .02$). Both groups showed improvement in symptoms during the intervention period, but this effect was larger in the intervention group ($t(28) = 6.33$, 95% CI = $2.41 - 4.71$; $d = .88$, $p < .001$) than the control group ($t(23) = 4.44$, 95% CI = $1.13 - 3.12$, $d = .50$, $p < .001$). A higher proportion of participants in the intervention group showed a reliable change in PTSD symptoms than the control group (26.3% vs. 15.0%). There was no change in PTSD symptoms between the post-intervention and follow-up assessments ($t(24) = -0.13$, $p = .89$), indicating that treatment effects persisted.

Depression, Anxiety and Stress

The group x time interaction for scores on the anxiety subscale of the DASS-21 approached significance, reflecting a trend to a greater reduction in anxiety in the intervention group ($F(1,48) = 3.42$, $p = .07$). A post-hoc t -test found no significant group difference at the post-intervention assessment ($t(51) = -0.71$, $p = .48$). There was an improvement between T1 and T2 in both groups for the anxiety scale (intervention: $t(28) = 3.05$, 95% CI = $0.79 - 4.04$, $d = .71$, $p < .01$; control: $t(23) = 3.6$, 95% CI = $0.51 - 1.82$, $d = .36$, $p = .001$). Table 8 provides

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a summary of results for the depression and stress scales. The proportions of participants in the intervention and control groups showing a reliable change in score on the various subscales of the DASS-21 were respectively, depression (71.4%; 38.5%), anxiety (63.2%; 35.3%) and stress (52.0%; 52.4%). There was no change in any of these variables between the post-intervention and follow-up assessments in the intervention group ($t(24) = -0.11 - 0.59$, all ns), indicating that scores were stable.

Treatment Satisfaction

Participants in the intervention group reported a mean CSQ-8 score of 26.23 ($SD = 3.18$), indicating that they were generally satisfied with the treatment (cut-off: 24 points; Hannöver et al., 2000). More than four fifths (84.6%) of the participants reached or exceeded the threshold for treatment satisfaction. The mean score across all items was 3.27, indicating that most items were rated somewhere between *quite satisfied* (3) and *very satisfied* (4). The majority of participants reported that they would certainly (63.0%) or probably (37.0%) recommend the manual to a friend in similar life circumstances.

Adherence

On average, intervention group members reported having read 68 out of 84 pages of the manual (81.4%); 24.5% claimed to have read the whole manual and 87.0% to have read at least half the manual. The intervention group invested a mean amount of 5.5 hours ($SD = 3.96$) in working with the manual and 85.2% claimed to have followed the instructions exactly.

Seven of the 53 participants who met the final inclusion criteria (13.2%) dropped out of the study. All dropouts originated from the intervention group (dropout rate = 24.1%). Three participants reported that they were too busy to participate in the study and four did not give a

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reason. The only demographic variable related to dropout was education, ($U = 95.50$, $z = -2.23$, $p = .03$); individuals with less education were more likely to drop out.

Discussion

The aim of this study was to evaluate the effectiveness of an unguided written self-help manual for AjD in a randomized controlled trial. It had been suggested that this treatment rational of AjD would work in a RCT (Maercker, Bachem, Lorenz, Moser, & Berger, 2015). The results showed that bibliotherapy, in the form of the manual we tested, alleviated symptoms specific to AjD, namely preoccupations, when an intervention group was compared with a waiting-list control group. There was also a reduction in post-traumatic stress symptoms. In the intervention group, the fraction of participants still meeting clinically significant AjD criteria was half as big as in the control group. The proportion of participants showing reliable change in outcome variables was consistently higher in the intervention group than in the waiting-list control group. Improvements in the intervention group were stable at a follow-up assessment three months post-intervention. Without support or reminders 87% of participants had worked through at least half the manual and treatment satisfaction was generally high. Almost all participants indicated that they would likely recommend the manual to someone else in similar circumstances.

The study sample consisted of burglary victims experiencing subclinical and clinical symptoms of AjD. Consistent with the finding that domestic burglary elicits psychological stress (e.g. Beaton et al., 2000), the prevalence of AjD was comparatively high in our sample (34%) compared with palliative care (14%) and oncological or hematological (19%) samples (Mitchell et al., 2011). Furthermore, AjD scores were higher in our sample than in a high-risk medical sample (Maercker et al., 2007). At baseline mean symptoms of depression, anxiety and stress measured by DASS-21 were more severe in our sample than in 87% of individuals in a

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normative non-clinical sample (Crawford & Henry, 2003), suggesting that there is an unmet need for psychological support in this population.

Treatment effects were largest with respect to the preoccupations groups of AjD symptoms and symptoms of post-traumatic stress. The reduction in symptoms of failure to adapt just failed to reach significance, although the difference between baseline and post-intervention symptoms had an effect size of $d = .88$ in the intervention group. There are similarities between the preoccupations symptom group in AjD and intrusive memories in PTSD; the former consists mainly of symptoms of constant rumination, spontaneous stressful memories about the critical event and excessive worry. Hence, the self-help intervention had a considerably larger effect on PTSD-related symptoms than on the more heterogeneous AjD symptom group, failure to adapt, which includes sleep disturbances, concentration difficulties, loss of interest in positive activities and reduced self-confidence. In accordance with the conceptualization of AjD as a stress response syndrome (Strain & Friedman, 2011) the self-help manual contained a variety of exercises adapted from treatments for PTSD, for example instructions for imaginative exposure were adapted from an evaluated therapist-guided online therapy (Knaevelsrud & Maercker, 2007). This is the mostly likely explanation for the effectiveness of the intervention in this domain.

Effect sizes for the impact of the intervention on the AjD symptom group failure to adapt were smaller than those for the preoccupations symptom group and the intervention effects did not generalize to other domains such as depression or stress. It might be difficult to address less specific symptoms in purely self-help interventions; this hypothesis is corroborated by research showing that more detailed, more specific self-help manuals are more effective than generalized ones (Hellström & Öst, 1995; Mains & Scogin, 2003). Similarly, self-help books targeting

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clearly circumscribed problems tend to attract higher quality ratings (Redding, Herbert, Forman, & Gaudiano, 2008).

The reduction of anxiety over the intervention period was not significant, although the pre-post effect size was $d = .71$ in the intervention group. Whether this trend towards a reduction in anxiety generalizes to populations affected by other stressful life events is an issue for future research. Taken together, the bibliotherapeutic manual used in this study addressed a circumscribed reaction to stress but may not be sufficient to treat more complex issues or comorbidities. Nevertheless, there is evidence that working with self-help materials increases disorder literacy (i.e. Lintvedt et al., 2013), and may sensitize readers to personal issues or facilitate appropriate engagement with mental health services (Jorm & Griffiths, 2006).

AjD is considered a transient disorder that remits spontaneously in the majority of cases. This was confirmed in our sample, where the control group also showed reductions in all outcome variables between the T1 and T2 assessments. There are several possible reasons for this reduction in symptoms. It may have been due to spontaneous remission and been unconnected with the study procedure; however it could also be explained as a placebo effect related to an increase in hope, as participants know that they will receive support during the course of the study. In line with observations by Scholes, Turpin, and Mason (2007), several participants in this study mentioned that even completing the baseline self-report measures had a positive impact on their ability to process the event. Finally, burglary is commonly considered to be a minor crime whose main impact is material rather than psychological (Beaton et al., 2000). Participating in a study which specifically recruited burglary victims is likely to have provided participants with the feeling that their experience has been acknowledged and this may have mediated the reduction in symptoms in the control group (Maercker & Müller, 2004). Its transient character notwithstanding, AjD imposes a severe psychological burden which takes

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the form of a reduction in quality of life and intrusive memories about the stressor. The use of low-threshold cost-effective interventions seems justified as it may accelerate the healing process and reduce the incidence of chronic AjD.

Effect sizes for the intervention effect were small to medium ($d = .17$ to $d = .67$) for most outcome variables. The observed small effects on anxiety and stress symptoms are in line with published meta-analyses of pure self-help interventions for anxiety and depression (Cuijpers et al., 2011; Spek et al., 2007). Larger sample sizes are required to detect intervention-related changes in failure to adapt symptoms of AjD, or associated features such as anxiety and depression reliably. There was a medium effect size for the reduction in symptoms of post-traumatic stress; this was more similar to the reported effects of web-based self-help interventions for traumatized participants (Hirai & Clum, 2005; Z. Wang et al., 2013) than to the effects found in a bibliotherapeutic study by Ehlers et al. (2003). This finding further supports our hypothesis that AjD, under its new definition as a stress response disorder, may be a particularly suitable target for self-guided, low-threshold interventions.

The attrition rate for this study (13%) was low compared with the typical rate for unguided self-help interventions, which is around one third (Cuijpers et al., 2011); however, because all our dropouts came from the intervention group we had a group-specific attrition rate of 24%. A review of internet-based self-help studies by Christensen, Griffiths, and Farrer (2009) concluded that dropout rates tend to be higher in intervention groups than control groups. If, as in this study, the intervention group has no further incentive for participation after receiving the manual, motivation to complete outcome questionnaires may be lower than in the control group, which receives the intervention only after completion of the second assessment. Future studies could use an incentive such as provision of feedback on progress to attempt to

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lower attrition rates. The 0% dropout rate in the control group may be evidence of an unmet need for treatment in this population, which could potentially be met by self-help interventions.

In the intervention group we found a moderate association between level of education and dropout, which conflicts with an earlier finding relating to an internet-based self-help intervention Z. Wang, Kueffer, Wang, and Maercker (2014) in a clinical trial. It is possible that book-based interventions, such as the one investigated in our study, are off-putting to less educated participants but that this does not apply to internet-based interventions. Although the available evidence suggests that education does not have a significant influence on the success of the various modes of self-help treatment (Haug et al., 2012) it may be worth making both bibliotherapeutic and online materials available in order to reach the widest possible range of client groups.

More than 85% of participants who completed the trial reported high treatment satisfaction, and all of them said that they would probably recommend the manual to others. The satisfaction ratings in this study were comparable with those for other unguided self-help interventions (e.g. Berger, Caspar, et al., 2011; Berger, Hämmerli, Gubser, Andersson, & Caspar, 2011).

The study had several limitations. First, the sample was drawn from a very specific population, namely individuals suffering from symptoms of AjD following domestic burglary and so additional research is needed to determine whether similar treatment effects would be achieved with individuals suffering in the aftermath of other stressful life events, e.g. unexpected job loss or separation from loved ones. Additionally, most participants (89%) were female, which might be primarily due to the fact that women are more likely to seek help for and disclose mental problems after criminal incidents (Kaukinen, 2002). The sample was representative of the general population in terms of educational background and in terms of

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exposure to stressful life events was comparable with other risk samples (Dannemann, 2010; Maercker et al., 2007).

Second, the inclusion criteria were tightened after randomization in order to ensure that we investigated a sample with a minimum, albeit subclinical, level of symptoms. Because the ADNMQ questionnaire is a novel instrument there was no diagnostic threshold which could be used to specify inclusion criteria in advance. Future studies should investigate the effectiveness of bibliotherapy in clinical samples who meet criteria for AjD in a diagnostic clinical interview.

Third, the main outcome variables, namely preoccupations, failure to adapt and the remaining additional symptoms, were derived from diagnostic research (Maercker, Brewin, Bryant, Cloitre, Reed, et al., 2013; Maercker et al., 2007) and do not yet constitute an officially acknowledged ICD-11 or DSM-5 symptom pattern; they were chosen in an attempt to improve on the previous unsatisfactory diagnostic criteria for the disorder (Strain & Diefenbacher, 2008).

Fourth, there were several demographic differences between the groups. None of the men in the control group met the threshold for subsyndromal impairment (the more conservative inclusion criteria). This may have been related to the fact that men report less fear of victimization (Schafer et al., 2006) and, in particular, less psychological impairment after burglary (Beaton et al., 2000; Waller & Okihiro, 1978). The control group was younger than the intervention group, but this was taken into account by including the interaction in the regression analyses. Our results were in line with an earlier meta-analysis which found that neither age nor gender were associated with intervention effects when self-help treatments were compared with waiting-list control conditions (Haug et al., 2012).

Finally, the time since burglary was markedly longer in the intervention group than the control group (24 vs. 13 weeks). This may have led to a conservative estimate of treatment

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effects as spontaneous decreases in symptoms are less likely in chronic AjD. Importantly, there were no baseline group differences in psychological health. We nevertheless consider it essential to carry out further evaluations of the manual using more balanced samples.

Despite these limitations the study demonstrated, in a convenience sample of burglary victims that self-administered CBT-based bibliotherapy was effective in alleviating symptoms specific to AjD. The manual is especially promising as method of treating symptoms of preoccupations and post-traumatic stress, and we suggest that it may be particularly beneficial for the subgroup of AjD patients with more severe preoccupations. AjD can be regarded as one of the most common mental health conditions and it imposes a substantial financial burden on mental health systems. Self-help treatments are a promising, cost-effective and practical approach to treating mental health problems in general and AjD symptoms in particular. As no adverse effects of the intervention were observed on any of the outcome measures, the present manual could distributed to victims suffering after burglary as a first-line intervention.

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APPENDIX A

APPENDIX A

Revised Sense of Coherence Scale

Listed below are a number of statements about life. Please read each statement carefully and indicate how much it is typical of you.

	<i>not at all true</i>	<i>slightly true</i>	<i>some- what true</i>	<i>quite true</i>	<i>very true</i>
1. In spite of everything, I can learn from bad experiences.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Evil also has its place in the world.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I know that I could suddenly experience something really horrible or shocking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am convinced that a lot of negative feelings (e.g. rage) also have positive sides.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. In my thoughts and actions I take into account that things often have two sides: good and bad ones.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Difficult situations overstrain me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. One can always find a way to cope with painful things in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Due to my experiences in life I can handle new situations well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I can accept things that cannot be changed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. It is important for me to maintain a good overview of situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Normally I can consider a situation from various perspectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I always try to see things in context.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I put effort into considering different perspectives when I am exposed to problematic situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Manageability: Items 1, 6, 7, 8, 9; Reflection: Items 10, 11, 12, 13; Balance: Items 2, 3, 4, 5

APPENDIX B

APPENDIX B

SOC-R Descriptive Statistics of Deleted Items
(supplementary to manuscript 1)

	Mean	<i>SE</i>	<i>SD</i>	Skew- ness	Kur- tosis	Item- Scale
I believe that life is determined by fate.	3.39	.07	1.21	-.57	-.45	.12
The question „Why did it happen?“ can remain unanswered.	3.42	.07	1.22	-.50	-.61	.41
Oftentimes I am consternated by the things that happen.	2.78	.07	1.22	.05	-1.04	.29
I can accept that sad things are also part of life.	4.00	.05	.94	-.97	.87	.64
Even if an experience is bad, it is explicable to me.	3.29	.06	1.08	-.28	-.44	.50
I often get disappointed because people do not behave like I expect them to.	2.96	.06	1.04	-.17	-.61	.09
I see meaning in my own actions.	3.80	.05	.86	-.71	.81	.46
Life is not about victory but about survival.	3.16	.06	1.16	-.16	-.73	.02
I hope for many difficult challenges in my life.	1.94	.05	.94	.74	-.09	.28
Negative experiences help me to learn something useful for the future.	3.79	.05	.85	-.55	.38	.64
I take my time to elaborate my positive as well as my negative experiences.	3.67	.05	.98	-.37	-.38	.44
For me, making mistakes is a part of life.	4.01	.05	.89	-.78	.50	.45
It is important to me to make good and bad experiences in life.	3.07	.06	1.02	-.10	-.46	.48

Note. $N = 334$; Item-Scale = corrected item-scale correlation; Scale range: 1-5.

APPENDIX C

APPENDIX C

Extracts from the Self-Help Manual

Ist es noch mein Zuhause?



Ratgeber, um nach einem Einbruch zurück
in das gewohnte Leben zu finden

Rahel Bachem
Prof. Dr. Dr. Andreas Maercker

Ist es noch mein Zuhause?

Ratgeber, um nach einem Einbruch zurück
in das gewohnte Leben zu finden

Rahel Bachem

Prof. Dr. Dr. Andreas Maercker

Diese Broschüre wurde mit Unterstützung
der Mobiliar erstellt

Die Mobiliar
Versicherungen & Vorsorge

Autoren



Rahel Bachem, MSc
Universität Zürich

Rahel Bachem hat das Studium der Psychologie mit einem Master mit dem Schwerpunkt Klinische- und Gesundheitspsychologie in Zürich abgeschlossen. Seit 2012 ist sie dort am Lehrstuhl für Psychopathologie und Klinische Intervention als Assistentin und Doktorandin tätig. Sie befasst sich mit der Entwicklung von Behandlungsmethoden für Anpassungsstörungen sowie mit der Erforschung persönlicher Ressourcen, die in schwierigen Lebenslagen dabei helfen, mit dem entstandenen Stress umzugehen. Ein spezieller Fokus ihrer Arbeit liegt darin, zu untersuchen, wie sich solche Ressourcen im Verlauf des Lebens entwickeln.



Prof. Dr. Dr. Andreas Maercker
Universität Zürich

Andreas Maercker wurde in Berlin zum Arzt und Psychologen ausgebildet und arbeitete anschliessend an Universitäten in Berlin, San Francisco, Dresden und Trier. Er ist ärztlicher und psychologischer Psychotherapeut und leitet den Lehrstuhl für Psychopathologie und Klinische Intervention der Universität Zürich. Seit über zehn Jahren beschäftigen sich er und seine Arbeitsgruppe mit den Traumafolgestörungen. In dieser Zeit verfasste er mehrere Bücher, vom Therapielehrbuch bis zum Grundlagenforschungsband, sowie zahlreiche Zeitschriftenartikel, in denen er sich mit der Posttraumatischen Belastungsstörung, komplizierter Trauer und Anpassungsstörungen beschäftigt.



Universität
Zürich^{UZH}

Vorwort

Dieser Ratgeber richtet sich in erster Linie an Menschen, die einen Einbruchdiebstahl oder räuberischen Überfall zu Hause erlebt haben und deren persönliche Lebensqualität danach für längere Zeit beeinträchtigt ist. Diesen Menschen möchten wir mit den vorliegenden Materialien eine Hilfe zur Selbsthilfe anbieten, um die psychische Lebensqualität wieder zu verbessern. Viele der hier gegebenen Informationen sind jedoch auch für diejenigen interessant, die etwas Ähnliches erlebt haben und die ihr psychisches Wohlbefinden durch eigene Initiative wieder aufbauen wollen.

Damit sind bereits die wesentlichen Anliegen der Autoren angesprochen: Sie sollen als jemand, dem Schlimmes und Kriminelles passiert ist, sich aus dem anhaltenden Schock wieder heraushelfen können. Das geschieht am besten, wenn Sie sich den gegenwärtigen Verunsicherungen und Belastungen aktiv stellen. Es lohnt sich, einen solchen (weiteren) Versuch zu unternehmen!

Der Ratgeber stellt Wege und Mittel vor, die wir für Sie zusammengetragen oder neu entwickelt haben. Es geht um Informationen zu Ihrer jetzigen psychischen Lage und um konkrete Handlungsempfehlungen aus dem praktischen Erfahrungsschatz von uns und anderen Expertinnen und Experten. In der Regel wird sich durch das ganz praktische Durcharbeiten des Buches bei Ihnen rasch eine deutliche Verbesserung des allgemeinen Lebensgefühls einstellen.

Prof. Andreas Maercker & Rahel Bachem

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Wozu dieser Ratgeber?

Wer einen Einbruch ins eigene Heim erlebt hat, sieht sich mit einer unvorhergesehenen und oft kräfteaubenden Situation konfrontiert. Für Sie als Betroffene bedeutet ein Einbruch neben dem materiellen Schaden zumeist auch eine emotionale Belastung. Wie sich diese Belastung auf Ihr tägliches Leben auswirken kann und was Sie dagegen tun können, beschreiben wir in der vorliegenden Broschüre.

In erster Linie ist dies ein Ratgeber für Menschen, denen der Umgang mit den Erinnerungen an einen erlebten Einbruchdiebstahl deutliche Mühe bereitet. Die vorliegenden Informationen und Übungen sollen es Ihnen erleichtern, sich aktiv mit der stressbereitenden Situation auseinanderzusetzen.

Es handelt sich um eine **psychologische Hilfestellung nach wissenschaftlich anerkannten Prinzipien**, die Sie darin unterstützen wird, die Erinnerungen an die belastende Situation besser zu bewältigen. Das gesamte Übungsprogramm ist so konzipiert, dass Sie es zu Hause selbständig durchführen können.

Nach einschneidenden Lebensereignissen stehen Sie den Schwierigkeiten, diese Ereignisse zu verarbeiten nicht machtlos gegenüber. Diverse Übungen können Ihnen bei der Bewältigung helfen.

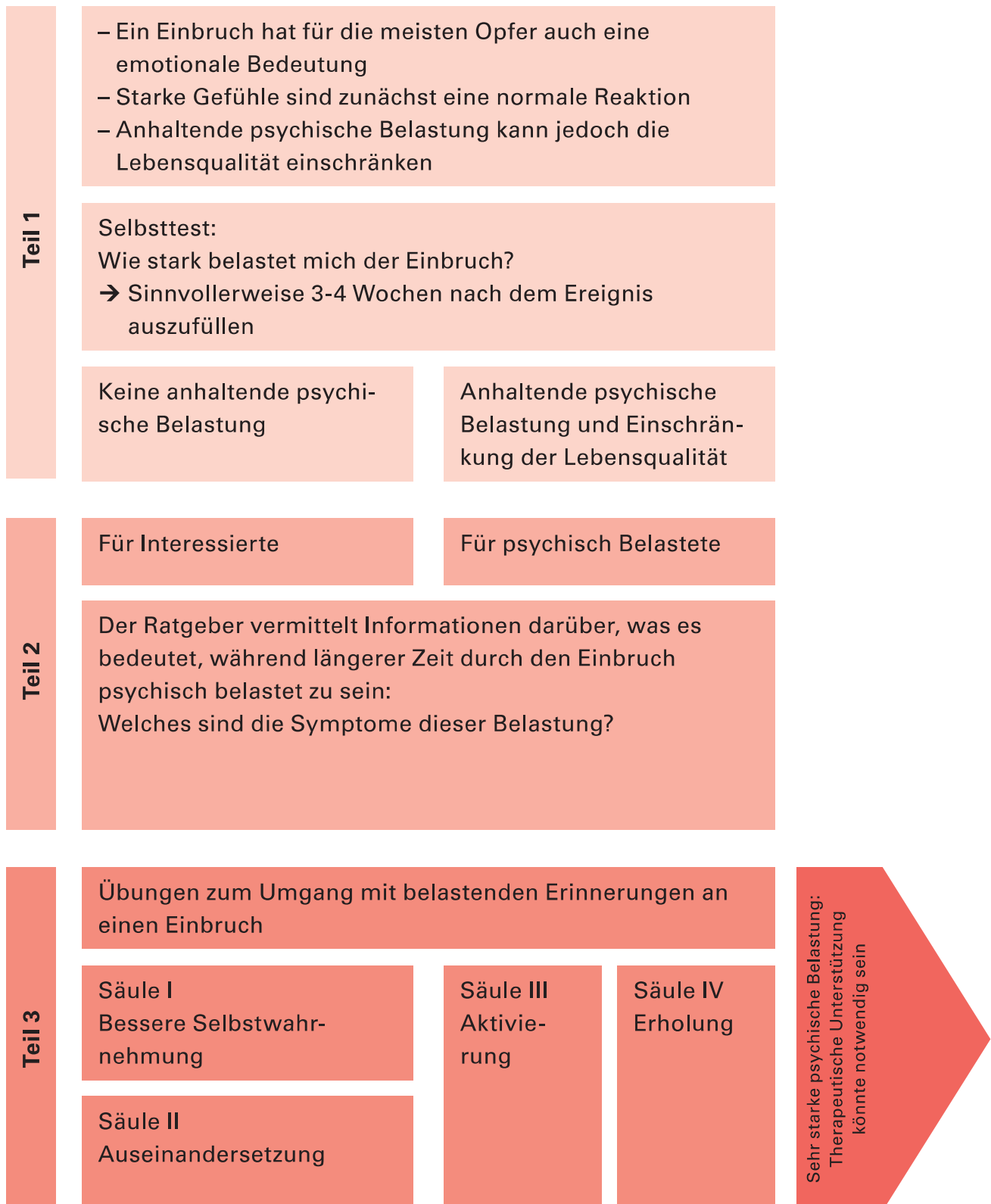
Wie ist dieser Ratgeber aufgebaut?

Im ersten Teil des Ratgebers wird beschrieben, was ein Einbruch bei den Betroffenen auslösen kann. Durch einen Selbsttest können Sie herausfinden, ob der Einbruch für Sie mit einer fortdauernden psychischen Belastung einhergeht oder ob Sie sich durch das Ereignis mittlerweile kaum mehr beeinträchtigt fühlen. Im zweiten Teil des Ratgebers können Sie nachlesen, warum ein Erlebnis wie ein Einbruch ins eigene Heim so viel Stress auslöst und wie sich diese Belastung auf Ihr tägliches Leben auswirken kann. Solche Schwierigkeiten, mit unerwarteten, kritischen Lebensereignissen umzugehen, werden als Anpassungsschwierigkeiten bezeichnet.

Den eigentlichen Schwerpunkt dieser Broschüre stellt der dritte Teil dar, in dem Sie sich mit Strategien vertraut machen, die Ihnen helfen werden, dieses Erlebnis – den Einbruch – besser verarbeiten zu können. Zu diesem Zweck haben wir verschiedene Übungen zusammengestellt, die bei der Bewältigung von Anpassungsschwierigkeiten helfen können.

Der Ratgeber im Überblick

Das folgende Schema verdeutlicht den Aufbau des Ratgebers und kann als Orientierungshilfe hinzugezogen werden.



Teil I

Was ein Einbruch bei Betroffenen auslösen kann

Wenn ein Fremder in die eigenen vier Wände eindringt, wird man schlagartig aus dem gewohnten Alltag gerissen. Dadurch kommt es häufig zu einer psychischen Belastung, die sich auf vielfältige Art und Weise bemerkbar machen kann.

Als erste Reaktion löst ein solches Ereignis einen Schock aus. Niemand rechnet damit, dass ihm etwas Derartiges zustossen könnte. Fragen wie «Warum gerade ich?» oder «Warum gerade jetzt?» können verständlicherweise viel Platz in den eigenen Gedanken einnehmen. Hinzu kommt der Schmerz darüber, dass einem Hab und Gut entwendet oder zerstört wurde.

Menschen reagieren unterschiedlich, wenn sie mit belastenden und somit stressreichen Situationen konfrontiert werden. Die Stressreaktionen sind deshalb ausgesprochen vielfältig und individuell. Dies wird im Folgenden durch zwei Portraits von Einbruchsopfern verdeutlicht.

Folgende Punkte können für Einbruchsoffer eine Rolle spielen:

- wenn ein Fremder in den persönlichen Lebensraum eindringt, stellt dies eine massive Verletzung der Privatsphäre dar
- viele Menschen verspüren starke Verärgerung oder Wut
- manche fühlen sich nicht mehr sicher und denken über einen möglichen Umzug nach
- einige fürchten sich, bis hin zu Angstzuständen
- dies kann zur ständigen Besorgnis führen, dass man in der Zukunft erneut Opfer eines Einbruchs werden könnte

Wohnungseinbruch an 2 Beispielen: Jeder Mensch reagiert anders

Als Robert Brunner abends nach dem Kino nach Hause kommt, findet er seine Wohnung verwüstet vor. Es wurden nicht nur Wertgegenstände entwendet, sondern auch die Sofas aufgeschlitzt und die Schubladen seines Kleiderschranks durchwühlt. Herr Brunner ist fassungslos und auch nachdem er die Wohnung wieder hergerichtet hat, fühlt er sich in den eigenen vier Wänden nicht mehr zu Hause.

Der Einbruch geht Herrn Brunner in den kommenden Wochen nicht aus dem Kopf. Er zögert, abends aus dem Haus zu gehen und verbringt viel Zeit damit, über die Gefahr eines neuen Einbruchs und einen möglichen Wohnungswechsel nachzudenken. Obwohl Herr Brunner früher sehr gesellig war, trifft er sich kaum noch mit Freunden und fühlt sich zunehmend einsamer.

Auch bei Petra Weber wurde eingebrochen. Sie berichtet über den Einbruch das Folgende: «Natürlich war es ein riesen Schock, als ich nach Hause kam. Die Täter sind durch ein Fenster im Badezimmer eingestiegen und überall war Dreck von den Schuhen. Immerhin kam die Polizei sehr schnell und hat sofort die Spuren gesichert. Entwendet wurde die Kamera und eine grössere Menge Bargeld, aber zum Glück nicht die Halskette meiner Mutter. Die hatte ich gut versteckt aufbewahrt.»

Frau Weber hat nach dem Einbruch auf Anraten der Polizei die Fenster auswechseln lassen und fühlt sich seither vor einem neuen Einbruch gut geschützt. Sie meint, dass der Einbruch ihren Alltag nicht nachhaltig beeinträchtigt hätte.

Wenn es Ihnen schwer fällt, einzuschätzen, ob Sie zu den Menschen gehören, die durch den Einbruchdiebstahl nachträglich noch stark belastet sind, empfehlen wir Ihnen, den kurzen Selbsttest auf der nächsten Seite durchzuführen.

Selbsttest: Wie stark belastet mich der Einbruch?

Um zu beurteilen, ob der Einbruch bei Ihnen eine starke psychische Reaktion hervorgerufen hat, können Sie den folgenden Selbsttest ausfüllen. Kreuzen Sie bitte an, ob die Aussagen auf Sie zutreffen.

Wichtig: Kurz nach einem Einbruch sind starke Gefühle zunächst eine normale Reaktion. Deswegen empfehlen wir, diesen Selbsttest etwa 3-4 Wochen nach dem Ereignis auszufüllen.

	Ja	Nein
1. Ich muss wiederholt an den Einbruch denken und das belastet mich sehr.		
2. Ich mache mir Gedanken darüber, dass mir so etwas wieder passieren könnte.		
3. Seit dem Einbruch kann ich nicht mehr richtig schlafen.		
4. Ich gehe seit dem Einbruch ungern zur Arbeit bzw. erledige ungern die notwendigen Dinge des Alltags.		
5. Seit dem Einbruch ziehe ich mich von anderen zurück.		
6. Ich versuche, meine Gefühle bezüglich des Einbruchs zu unterdrücken, weil sie für mich belastend sind.		

Wenn Sie eine oder zwei Fragen mit «Ja» beantwortet haben, so deutet dieses Resultat darauf hin, dass Sie mit den Erinnerungen an den Einbruch bereits gut umgehen können. Haben Sie hingegen bei drei oder mehr Fragen mit «Ja» geantwortet, so

ist dies ein deutlicher Hinweis darauf, dass das Erlebnis – der Einbruch und alles was damit zusammenhängt – Sie auch zurzeit noch stark belastet. Durch diese Feststellung sollten Sie sich jedoch nicht entmutigen lassen, denn Sie werden in dieser Broschüre

eine Vielzahl hilfreicher Massnahmen kennenlernen, welche Sie dabei unterstützen können, das Erlebnis zu bewältigen.

Teil II

Was es bedeutet, über längere Zeit durch den Einbruch belastet zu sein

Wenn einem die Erinnerungen an den Einbruch nicht aus dem Kopf gehen und man in seinem täglichen Leben von Sorgen und Ängsten geplagt wird, die mit dem Einbruch in Zusammenhang stehen, bedeutet dies für die meisten Betroffenen eine deutliche Einschränkung der Lebensqualität.

Auf den folgenden Seiten möchten wir zunächst diesen Zustand genauer beschreiben, den man in der Fachsprache inzwischen Anpassungsschwierigkeiten oder Anpassungsstörung nennt. Es könnte sein, dass Sie dieser Ausdruck stört, denn Sie halten es für etwas Vorübergehendes oder Sie denken «Warum soll ich mich an etwas anpassen (z.B. dass eingebrochen wurde), an das ich mich gar nicht anpassen will»? Die Fachsprache hat sich auf diese Begriffe geeinigt, um sie von Zuständen wie Depressionen, Panik- oder Angststörungen zu unterscheiden.

Unter Anpassungsschwierigkeiten verstehen wir einzelne Probleme in Zusammenhang mit dem Einbruch, die einen Betroffenen zwar belasten, jedoch nicht so stark einschränken, dass der momentane Alltag nicht mehr bewältigt werden kann. Von einer Anpassungsstörung spricht man, wenn sich solche Schwierigkeiten häufen und eine Person während längerer Zeit extreme Mühe hat, ein belastendes Lebensereignis zu bewältigen. Der nachfolgende Abschnitt soll Ihnen zeigen, welche Arten von Anpassungsschwierigkeiten durch einen Einbruch häufig hervorgerufen werden.

Typische Anpassungsschwierigkeiten nach einem Einbruch

Belastende Lebensereignisse können zu veränderten Lebensbedingungen führen. Dies verlangt von den Betroffenen, sich an die neue Situation anzupassen, selbst wenn diese sich zunächst einmal verschlechtert hat. Auch Ereignisse, die auf den ersten Blick einfach zu bewältigen scheinen, können eine starke Wirkung auf das eigene psychische Gleichgewicht haben. Beispiele für belastende Lebensereignisse sind etwa das Ende einer Liebesbeziehung, schwere Probleme am Arbeitsplatz oder eine körperliche Krankheit. Aber auch eine einschneidende Stresserfahrung wie ein Einbruchdiebstahl zählt zu dieser Art von Belastungserlebnissen.

Personen, die eine solche Belastung nicht leicht wegstecken können und ihr psychisches Gleichgewicht verlieren, sind oft einem Leidenszustand in der einen oder anderen Form ausgesetzt. Wenn die Mittel zur Bewältigung von Einbruchdiebstahl fehlen oder erschöpft sind, kann dies zu depressiver Verstimmung, Angst, Ärger oder Verhaltensauffälligkeiten führen. Typischerweise äussern sich Anpassungsschwierigkeiten auch dadurch, dass Betroffene nach dem belastenden Lebensereignis nicht aufhören

können, sich in Gedanken damit zu beschäftigen.

Grübeleien erkennt man folgendermassen:

- man spielt das Ereignis immer wieder im Kopf durch
- man hält sich ständig die Konsequenzen des Ereignisses vor Augen
- das andauernde «sich Sorgen machen» empfindet man als quälend
- pausenlos denkt man über die Frage nach: «Was wäre gewesen, wenn ich dies oder jenes getan hätte?»
- man investiert viel Energie in diese Grübelgedanken
- wenn schliesslich die Kraftreserven ausgehen, fühlt man sich entmutigt und resigniert

Oft leiden Personen mit Anpassungsschwierigkeiten auch unter:

- Konzentrationsschwierigkeiten
- Schlaflosigkeit
- Unsicherheit, selbst wenn es um vertraute Aufgaben geht

Solche Symptome und Verhaltensweisen wirken sich dann auch auf die Menschen im Umfeld der Betroffenen aus und können sowohl im familiären als auch im beruflichen Umfeld zu Problemen führen. Beispielsweise können Betroffene aufgrund dieser Schwierigkeiten nicht mehr die ge-

wohnte Arbeitsleistung im Beruf oder Haushalt erbringen und vernachlässigen sogar liebgewonnene Tätigkeiten im Privatleben. Oder sie sind als Folge von Schlaflosigkeit und Übermüdung konstant gereizt und in schlechter Stimmung. Die Anpassungsschwierigkeiten können also den Alltag von Betroffenen in vielerlei Hinsicht negativ beeinflussen.

Wird eine durch Anpassungsschwierigkeiten stark belastete Person an das Ereignis erinnert, verschlimmern sich die obengenannten Symptome manchmal. Dies führt dazu, dass Situationen, Gedanken und Gefühle vermieden werden, die mit dem Einbruch in Verbindung stehen. Zum Beispiel möchte man dann bestimmte Räume nicht mehr betreten, verbietet seiner Umgebung, von dem Vorfall zu sprechen und hat sogar Angst davor, sich an die schlimmsten Momente des Einbruchs zu erinnern. Man kann immer wieder feststellen, dass Betroffene sich dann scheinbar mit diesen Einschränkungen abfinden und auf den früheren Bewegungsspielraum, auf Gespräche und bestimmte Erinnerungen verzichten.

Häufigkeit von Anpassungsstörungen

Sie haben bereits gelesen, dass der individuelle Umgang mit belastenden Ereignissen sehr unterschiedlich ist – was sich auch auf die Häufigkeit von Anpassungsstörungen auswirkt. Im Jahr 2012 wurde in Deutschland ganz allgemein untersucht, ob Menschen

gewisse belastende Ereignisse erlebt haben, in deren Folge es immer wieder zu Anpassungsschwierigkeiten kommt. Die Psychologen untersuchten auch, ob die Betroffenen anschließend eine Anpassungsstörung entwickeln oder nicht. Die untenstehenden Prozentangaben zeigen, wie häufig jemand danach eine Anpassungsstörung entwickelt hat:

- Konflikte mit Nachbarn: 5.6%
- schwere Krankheit: 5.4%
- Konflikte im Beruf: 5.1%
- Umzug: 4.5%
- Finanzielle Schwierigkeiten: 4.0%
- Straftat (Einbruch eingeschlossen): 2.9%

Die psychologische Forschung hat weiterhin gezeigt, dass neben dem Stressereignis an sich weitere Faktoren wie das Geschlecht oder Alter einer Person bei der Entwicklung einer Anpassungsstörung eine Rolle spielen. So leiden Frauen insgesamt etwas öfter unter einer Anpassungsstörung als Männer und bei Menschen im höheren Lebensalter (über 65 Jahren) ist das Vorkommen etwas häufiger als bei jüngeren Menschen. Anpassungsstörungen können jedoch in jeder Lebensphase, von der Kindheit bis ins hohe Erwachsenenalter, auftreten.

Auf den ersten Blick erwecken die oben gezeigten Zahlen den Eindruck, als seien Anpassungsstörungen ein relativ seltenes Problem. Tatsächlich kommt es beim grössten Teil der

Menschen, welche sich mit einem belastenden Lebensereignis konfrontiert sehen, nicht zum Vollbild einer Anpassungsstörung. Viel wahrscheinlicher ist, dass man unter einzelnen Problemen und Schwierigkeiten leidet, die zwar mit dem Stressereignis in Zusammenhang stehen, jedoch nicht als psychische Krankheit bewertet werden sollten. Trotzdem ist es wichtig, diese Schwierigkeiten ernst zu nehmen, denn wenn man sich gezielt damit auseinandersetzt, kann man sie zumeist aus eigener Kraft bewältigen.

Nach einem Einbruch entwickeln die meisten Menschen keine Anpassungsstörung. Entstandene Anpassungsschwierigkeiten betreffen häufig nur einzelne Lebensbereiche und sind aus eigener Kraft bewältigbar.

Teil III

Wie gehe ich mit Anpassungsschwierigkeiten um?

Selbsthilfemöglichkeiten anhand dieser Broschüre

Wir wollen Ihnen im Folgenden einige Wege aufzeigen, wie Anpassungsschwierigkeiten überwunden werden können. Dazu haben wir eine Reihe von Übungen zusammengestellt, die hier nacheinander beschrieben werden. Die Übungen der ersten beiden Themenbereiche – wir nennen sie «Säulen» – bauen aufeinander auf, weswegen sie mit Vorteil in der vorgeschlagenen Reihenfolge bearbeitet werden sollten. Alle anderen Übungen brauchen Sie nicht in der vorgeschlagenen Reihenfolge zu bearbeiten. Wenden Sie sich demjenigen Thema zu, das Sie jeweils am stärksten anspricht und bei dem Sie denken, dass es für Sie passe.

Sie können selbst bestimmen, wann Sie die Übungen bearbeiten möchten und wie viel Zeit Sie investieren wollen. Wenn möglich legen Sie im Voraus einen bestimmten Zeitraum (z.B. 45 Minuten) fest und richten sich so ein, dass Sie nicht gestört werden. Von Vorteil ist, wenn Sie Ihr Telefon leise stellen, damit Sie nicht abgelenkt werden und Ihre Konzentration ganz auf die Übungen richten können. Zuvor noch eine wichtige Anmerkung: Wenn Sie sich in der oben beschriebenen Zusammenfassung einer Anpassungsstörung wiedererkannt haben und denken «Ja, genauso ist es bei mir – und zwar in sehr starkem

Ausmass», dann kann es sein, dass diese Broschüre mit ihren Übungen Ihnen zu wenig Hilfe und Unterstützung bieten kann. In diesem Fall wäre es besser, wenn Sie einen Psychotherapeuten aufsuchen (Psychologe oder Arzt), mit dem Sie persönlich über Ihre belastenden Erinnerungen sprechen können.

Professionelle Hilfe könnte notwendig sein wenn:

- Sie sich so kraftlos fühlen, dass Sie nicht mehr mit der alltäglichen Routine fertig werden
- Sie sich den beruflichen Anforderungen nicht mehr gewachsen fühlen
- Sie niemanden haben, dem Sie sich anvertrauen können und gleichzeitig ein starkes Bedürfnis verspüren, von jemandem unterstützt zu werden
- nahestehende Personen aus Ihrem Umkreis Ihnen mitteilen, dass sie sich überfordert fühlen und der gemeinsamen Situation nicht mehr gewachsen sind ¹

¹ Hochgestellte Ziffern verweisen auf Zitate von anderen Autoren (siehe Anhang).

Die vier Säulen zur Selbsthilfe

Nun möchten wir Ihnen aufzeigen, wie Sie mit etwas Zeit die psychische Belastung durch den Einbruch selbständig und aus eigener Kraft angehen können. Der Übungsteil dieser Broschüre ist in vier verschiedene Abschnitte gegliedert, die im Folgenden als die vier «Säulen» genauer vorgestellt werden sollen.



1. Säule: Bessere Selbstwahrnehmung

Die Auseinandersetzung mit Stress verläuft umso besser, je genauer man seine eigenen inneren Zustände kennt und sie einordnen kann. Häufig befinden sich von Einbruch betroffene Menschen in einer Art diffusen Erregungszustand, weshalb es wertvoll sein kann, sich der eigenen, oftmals verwirrenden Gefühle bewusst zu werden. In den Übungen werden Sie Ihre eigenen körperlichen und psychischen Empfindungen überdenken, ordnen und auf diesem Weg ein Stück weit verarbeiten. Weiterhin möchten wir Sie dazu anregen, nachzudenken, ob es persönliche Umstände in Ihrem Leben gibt, die dazu beitragen, dass es Ihnen jetzt nach dem Einbruch besonders schlecht geht. Anhand der Übungen zu besserer Selbstwahrnehmung werden Sie lernen, innere Stresszustände besser zu verstehen.

In den Texten und Übungen werden die folgenden Fragen angesprochen:

- Wie geht es mir jetzt nach dem Vorfall?
- Wie gehe ich generell mit meinen Gefühlen um?
- Warum belastet mich der Einbruch so stark?
- Welche spezifischen Gedanken belasten mich?
- Welche Gefühle stehen damit in Zusammenhang?

2. Säule: Auseinandersetzung

Im zweiten Übungsteil dieser Broschüre werden Sie auf die Erkenntnisse der 1. Säule aufbauen. Sie werden Techniken kennenlernen, welche Ihnen erlauben, auf Ihre eigenen belastenden Gefühle und Gedanken Einfluss zu nehmen und eine bessere Verarbeitung herbeizuführen. Sie werden lernen, negative Gedanken zu erkennen und zu stoppen und sich

Ihren Ängsten zu stellen. Es geht also um die aktive Auseinandersetzung mit den psychischen Folgen eines Einbruchs.

Es werden die folgenden Fragen angesprochen:

- Welche irrationalen negativen Gedanken belasten mich?
- Wie gehe ich mit Grübelgedanken um?
- Wie kann ich negative Gedanken überwinden?
- Was bewirken Ablenkung und Verdrängung?
- Wie kann ich mit meinen Ängsten besser umgehen?
- Lohnt sich ein Umzug?

3. Säule: Aktivierung

Die Texte und Übungen der dritten Säule werden Sie dabei unterstützen, besser über Ihre eigenen Fähigkeiten und Ressourcen Bescheid zu wissen. Es ist wichtig, sich auch in schwierigen Zeiten nicht aus dem Leben zurückzuziehen, sondern aktiv daran teilzunehmen und auch die Unterstützung von Mitmenschen anzunehmen. In den Texten und Übungen werden die folgenden Fragen angesprochen:

- Welche Schwierigkeiten habe ich bisher in meinem Leben gemeistert? Was hat mir dabei geholfen?
- Welche Tätigkeiten tun mir gut?
- Welche Hobbys und Aktivitäten bereiten mir Freude?
- Warum hebt körperliche Aktivität die Stimmung?

- Was hilft mir beim bewussten Geniessen?

4. Säule: Erholung

Der Mensch braucht in stressreichen Zeiten auch Gelegenheit, sich von kräftezehrenden Ereignissen erholen zu können. Ergänzend zur dritten Säule «Aktivierung» erfahren Sie im Kapitel «Erholung» mehr darüber, wie Sie Ihrem Körper und Geist die notwendige Ruhe gönnen können. Wenn Sie seit dem kritischen Lebensereignis häufig ein Gefühl innerer Unruhe verspüren, ist es besonders wichtig, über Techniken nachzudenken, die es Ihnen ermöglichen, sich zu entspannen. Die Übungen der vierten Säule werden Sie dabei unterstützen.

In den Texten und Übungen werden die folgenden Fragen angesprochen:

- Wie erholt bin ich zurzeit?
- Warum ist die Fähigkeit, sich zu erholen, so wichtig?
- Wie kann ich mir eine gedankliche Auszeit gönnen?
- Welche Entspannungsverfahren könnten mir gut tun?
- Was kann ich gegen Einschlafschwierigkeiten tun?

Weiterführende Literatur

An dieser Stelle möchten wir uns herzlich bei den Kolleginnen und Kollegen bedanken, deren kreative Ideen zur Bewältigung von Anpassungsschwierigkeiten wir in das vorliegende Manual haben einfließen lassen (und durch hochgestellte Zahlen mar-

kieren). Namentlich sollen insbesondere erwähnt werden: Konrad Reschke, Anja Kusel, Karen Teichmann und Raik Hallensleben für das Therapieprogramm für Anpassungsstörungen (TAPS) sowie Nicolas Hoffmann und Birgit Hofmann für ihr Buch «Anpassungsstörung und Lebenskrise: Material für Therapie, Beratung und Selbsthilfe». Interessierte Leserinnen und Leser werden in diesen Texten viele weitere Tipps und Übungen finden, die den Umgang mit Anpassungsschwierigkeiten erleichtern können.

1. Säule: Bessere Selbstwahrnehmung



In diesem ersten Übungsteil bieten wir Ihnen verschiedene Übungen an, die Sie dabei unterstützen sollen, Ihre Reaktion auf den Einbruch zu beobachten und die eigenen Gefühle bewusst wahrzunehmen. Nach schwierigen Lebensereignissen besteht manchmal die Tendenz, sofort nach Lösungen zu suchen, noch bevor man weiss, wie genau die eigene Gefühlswelt aussieht.

Beim Bearbeiten der Übungen setzen Sie sich in erster Linie mit dem aktuellen Stress, der aufgrund des Einbruchs entstand, auseinander. Sie werden aber viel von dem Gelernten auch in zukünftigen Stresssituationen verschiedener Natur anwenden können.

Übung 1: Wie geht es mir jetzt nach dem Vorfall?

Nach schwierigen Lebensereignissen kommt es häufig vor, dass man viele widersprüchliche Empfindungen verspürt. Oft fällt es schwer, die verschiedenen körperlichen und psychischen Reaktionen auseinanderzuhalten. Man fühlt sich verwirrt und fragt sich, was zu tun ist, damit es einem besser geht. In dieser ersten Übung geht es darum, dass Sie sich Ihrer aktuellen Empfindungen bewusst werden und – wenn es geht – diese sortieren.

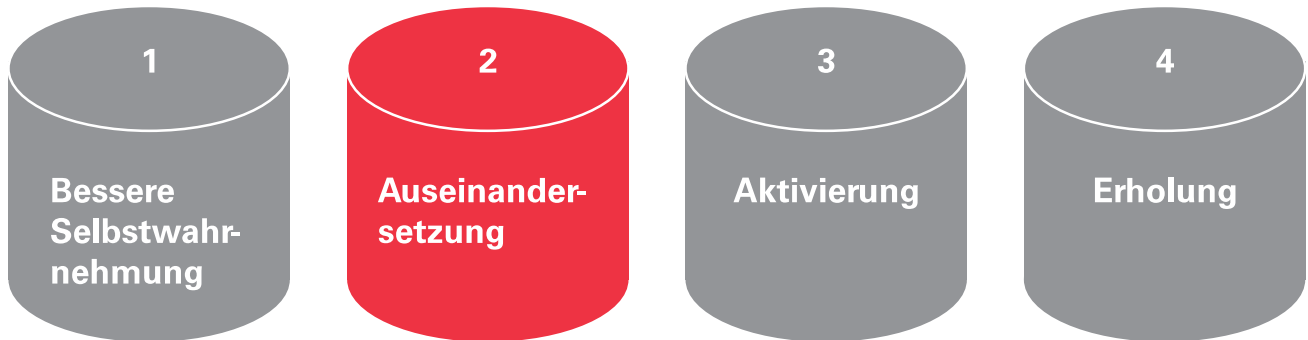
In der untenstehenden Tabelle sind körperliche Empfindungen eingetragen, die nach einem Einbruch für viele Menschen zentral sind. Überlegen Sie sich, wie sehr die Zustände seit dem Einbruch auf Sie zutreffen und machen Sie ein Kreuz in der entsprechenden Spalte. In der untersten Zeile haben Sie Gelegenheit, weitere körperliche Empfindungen einzutragen, die Ihnen wichtig erscheinen.¹

Teil 1

Teil 2

Teil 3

2. Säule: Auseinandersetzung



Im Folgenden werden Sie einen Schritt über die Selbstwahrnehmung hinausgehen und versuchen, Ihre bisherigen Erkenntnisse anzuwenden, um über die immer noch bestehenden belastenden Erinnerungen, Gedanken und Gefühle in Bezug auf den Einbruchdiebstahl hinwegzukommen. In den nachfolgenden Übungen werden Sie sich zielgerichtet mit Ihren negativen Gedanken und Grübeleien auseinandersetzen. Ausserdem werden Sie sich mit Techniken vertraut machen, wie Sie mit Ängsten in Zusammenhang mit dem Stresserlebnis umgehen können.

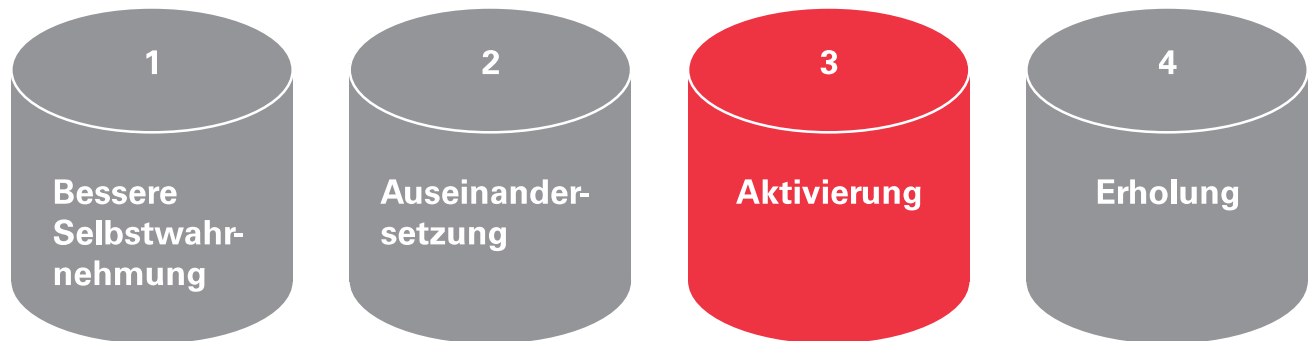
→ Hinweis: Die Inhalte der Übungen knüpfen an das vorhergehende Kapitel zu besserer Selbstwahrnehmung an, weswegen es von Vorteil ist, wenn Sie jene Übungen bereits bearbeitet haben.

Übung 1: Negative Gedanken überwinden

Aus der letzten Übung «Die Macht der Gedanken» (Seite 37) wissen Sie, dass negative Gedanken in den meisten Fällen auch mit ebensolchen Gefühlen einhergehen. Negative Gefühle verstärken wiederum gleichartige Gedanken. Um aus diesem – wie man es nennen kann – Teufelskreis ausbrechen, möchten wir Sie mit einer Technik vertraut machen, die helfen kann, solche Gedanken zu überwinden. Wir nennen diese Technik die ESEL-Technik. Die Abkürzung «ESEL» steht für «Erkennen», «Stoppen», «Ersetzen» und «Lernen». Dabei können stressverursachende Gedanken erkannt, gestoppt und durch positive, stressbewältigende Gedanken ersetzt werden.²

Für das «Erkennen» haben Sie in Übung 5 der ersten Säule bereits wichtige Einsichten niedergeschrieben, als Sie angaben, mit welchen Gefühlen negative Gedanken einhergehen.

3. Säule: Aktivierung



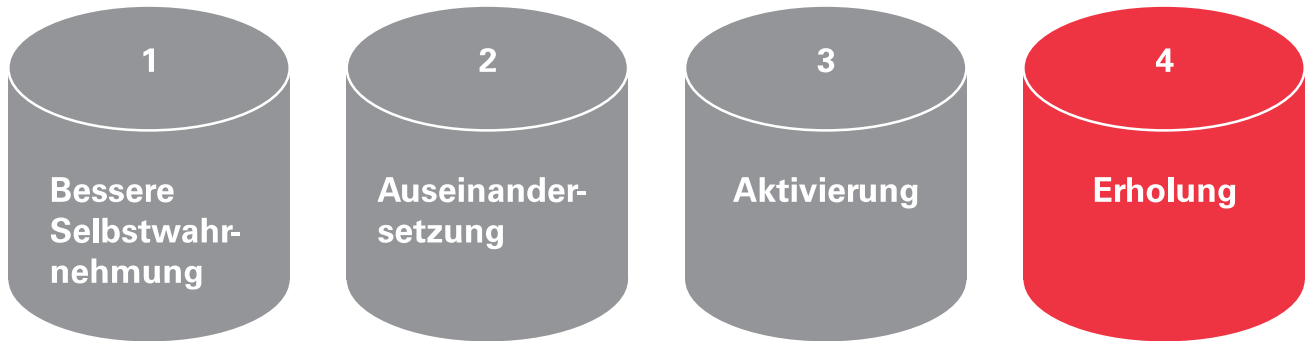
In diesem dritten Übungsteil der Broschüre richten Sie Ihre Aufmerksamkeit auf die eigenen inneren Stärken und Ressourcen. Die Übungen werden Sie darin unterstützen, sich dieser persönlichen Ressourcen bewusst zu werden und sich Gedanken darüber zu machen, wie Sie diese einsetzen können, um sich einen lebendigen und abwechslungsreichen Alltag zu gestalten. Es geht darum, aktiv im Leben zu stehen und sich nicht durch die belastenden Erinnerungen an den Einbruch einschränken zu lassen. Sie werden sich überlegen, welche Dinge Ihnen im Leben Freude bereiten und gut tun und Sie werden Tipps erhalten, wie Sie Ihre einmal gesteckten Ziele in die Tat umsetzen können.

Übung 1: Meilensteine meines Lebens

Ein Einbruchdiebstahl ist manchmal ein so schwerwiegendes Lebensereignis, dass es bei den Betroffenen dazu führt, dass die Gedanken an andere Erlebnisse und die Sicht auf das eigene Leben verdunkelt werden und man infolgedessen seine Zukunft als auch seine Vergangenheit unter einem düsteren Stern betrachtet. Dabei verlieren die Betroffenen ganz aus den Augen, dass sie in ihrem Leben bereits viele Male erfolgreich mit schwierigen Situationen umgegangen sind!

Auf solche gemeisterte Schwierigkeiten möchten wir jetzt im Folgenden eingehen. Schauen Sie sich den Zeitstrahl auf der nächsten Seite an. Er soll Ihr gesamtes Leben von der Geburt bis zum heutigen Tag darstellen. Besinnen Sie sich nun zurück auf frühere Lebensabschnitte: Welche schwierigen Krisen haben Sie in der Vergangenheit erlebt und überwunden? Markieren Sie auf dem Zeitstrahl den ungefähren Zeitpunkt, zu dem Sie die Krisen erfolgreich bestanden ha-

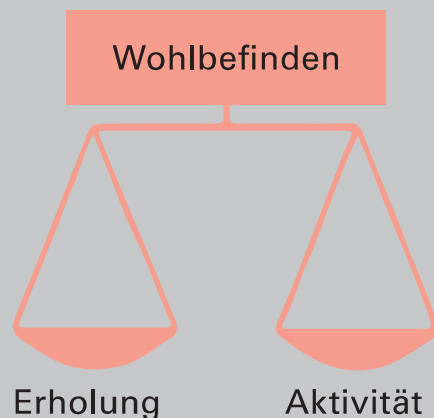
4. Säule: Erholung



Das Thema dieser vierten Säule ist Erholung und Entspannung. Können Sie sich noch in Ihren eigenen vier Wänden entspannen? Für viele Menschen ist dies nach einer schwierigen Erfahrung wie einem Wohnungseinbruch kaum noch möglich. In den Texten und Übungen dieses Inhaltsbereichs möchten wir Ihnen Techniken näherbringen, die Ihnen dabei helfen können, wieder ein Gefühl von Ruhe und Entspannung zu entwickeln. Es kann natürlich nicht das Ziel sein, sich im Alltag ständig zu erholen oder

zu entspannen, denn dies ist aufgrund der vielen Aufgaben, die normalerweise zu erledigen sind, nicht realistisch. Wir wissen auch, dass Entspannung als Ziel weit schwieriger ist, als man es sich häufig vorstellt.

Dennoch, um eine gute Lebensqualität zu erreichen, braucht es ein gesundes Gleichgewicht zwischen Aktivitäten und Herausforderungen auf der einen Seite und Erholung und Entspannung auf der anderen Seite. Dies soll das folgende Sinnbild der Waage verdeutlichen.



Schlusswort

Unerwartete, schwierige Lebensereignisse ziehen häufig nicht spurlos an einem vorüber und deren Bewältigung braucht seine Zeit. Wir hoffen, dass wir Ihnen anhand dieser Broschüre Wege aufzeigen konnten, die Ihnen helfen, die Anpassungsschwierigkeiten nach einem Einbruch ins eigene Heim zu überwinden.

Die Übungen der vier Säulen dieser Broschüre hatten zum Ziel, dass Sie lernen, Ihre eigene Krise besser zu verstehen (Säule 1) und mit negativen Gefühlen und Ängsten besser umzugehen (Säule 2). Ausserdem haben wir Sie dazu angeregt, aktiv zu sein und Dinge zu unternehmen, die Ihnen Freude bereiten (Säule 3). Dennoch ist es wichtig, dass Sie sich zwischendurch auch einmal so richtig erholen können (Säule 4).

Wir hoffen, dass die Erinnerungen an den Einbruch in Zukunft nicht mehr auf Ihre Stimmung drücken werden und dass Sie das Gefühl von «zu Hause sein», von Sicherheit und Geborgenheit im eigenen Heim, wieder entwickeln konnten.

CURRICULUM VITAE

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05/2012 – 06/2015	University of Zurich – Zurich Doctoral student, Department of Psychology, Psychopathology and Clinical Intervention Advisors: Prof. Dr. Dr. Andreas Maercker and Prof. Dr. Simon Forstmeier Fellow of the International Max Planck Research School on the Life Course
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CURRICULUM VITAE

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Psychotherapist (delegated), focus on trauma, grief, and depression
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Lecturer for the courses “selected topics in psychopathology”, “case-related learning in psychopathology” and “E-mental health”
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Internship as a clinical psychologist
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